2011

E-portfolios And Digital Identities Using E-portfolios To Examine Issues In Technical Communication

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E-PORTFOLIOS AND DIGITAL IDENTITIES: USING E-PORTFOLIOS TO EXAMINE ISSUES IN TECHNICAL COMMUNICATION

by

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M.A. University of Central Florida, 2004

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of English
in the College of Arts and Humanities
at the University of Central Florida
Orlando, Florida

Fall Term
2011

Major Professor: David Wallace

ABSTRACT

Technical writing teachers have always struggled with understanding how to best deal with pedagogical issues including rapidly changing technology, audience construction, and transposing an academic ethos into a professional one. The expanding online world complicates these issues by increasing the pace of digital change, making the potential audience both more diffuse and more remote, and creating a more complex online rhetorical situation.

E-portfolios provide a vivid way to examine this complex technological situation, and in this study, the author examines four cases of students creating online portfolios in a technical communication classroom. The author looks at both their e-portfolio process as well as their product, interviewing them to get a sense of how they used rhetoric, identity, and technology in an attempt to form a coherent professional presentation through a technological medium. In addition, the author looks at some issues inherent in e-portfolios themselves that may be applicable to a technical communication classroom, as this medium becomes ever more popular as a way of assessing both programs and the students themselves.

ACKNOWLEDGMENTS

So many of you have helped me complete this dissertation that I almost don't know where to begin, but I will start with the two main players. David Wallace and Martha Marinara, I could not have finished this dissertation without of you. David, you have been with me from the beginning. I knew that I wanted you on my committee from the start, because you make me produce my best work, and you make me work so very hard. Through every question, every challenge, I have never doubted that you wanted the very best for me, even when you pushed me to the brink. I must confess to suffering occasionally from professional jealousy (the now why didn't I think of that syndrome), but you always made me feel like I was on a journey – discovering how to do "real research" - and that felt much less intimidating, when you were guiding me.

And Martha, you came in later, but were still there from the beginning unofficially, always supporting me. You gave me the ability to write and the inspiration to believe that I could actually do this work. Even when I was discouraged, you read what I wrote and always said: "This isn't that bad. Why don't you try this to make it better?" And it magically got better. Your training in composition gave me a basis for grounding my technical communication research, and your kind and supportive teaching style, which has been the inspiration to many students, worked like a charm on me as well. With your eye for the mechanics of a good sentence, I learned so much about writing just working one on one with you. That is exactly how it should be.

Chuck Dziuban, who always believed in me, as well, and the entire Research in Teaching Effectiveness Program, was a life support system. Chuck, you and Patsy Moskel are so good at taking research methods and just saying: "if you did this, wouldn't it be more interesting", even as

you railed at the idea of doing another qualitative study. And thank you for always saying that whatever I did was good, because that gave me a much-needed ego boost a couple of times when I really needed it.

Melody Bowdon, through the classes in theory in Texts and Technology (I still quote from Edison's Light), to your current role as the Faculty Center Director; you have a way of hitting the point directly. That makes me try so hard, and think even harder! You are the epitome of a graduate professor, and your questions are so good! I enjoyed every minute of your classes, and wrote much of the early grounding for this dissertation under your tutelage. I appreciated your feedback on my early writing style, and I evolved a great deal during those early classes.

Brian Blackburne, my colleague and my friend. We wrote together, we lunched together, and finally you went on without me. I was so ready to join you, but it took me longer for so many reasons! I was never so happy as when I was able to send you that last text – I am finished. You are far away now, and we don't get to see each other nearly as much as either of us would like. Facebook is not enough.

Susan Thompson, you kept me going a few times with phone calls late at night when you were driving to teach, with funny stories and Facebook posts. Then at the last minute, when I needed saving, you swooped in and saved my prose with some timely help, and I owe you a lot for that. I'm still encouraging you to join me, you know.

And to Karla Kitalong, who was on my committee early, but who had to leave to commune with her grandchildren, I miss you so, but valued your input from afar. You gave me the background in usability testing and focus groups that I so sorely needed in order to complete this study. The work that we did on Journey with Sea Creatures (remember the children pulling the projector out

of the module and what we learned about how awry a project can really go?) taught me so much about designing a study and writing the results. I can't thank you enough, also, for the informal feedback you have given me as we've discussed e-portfolios over Facebook.

To Denise Young, you asked how the writing was going every time you saw me. I was always motivated when I could answer in the affirmative. To my fellow Texts and Technology students, particularly Warren, Lynne, Alicia, and Amy – you were a great support system when I was stressed. To Hank Lewis, who helped in nine million different ways including setting up the room for me to defend this dissertation, and loaned me the computer to complete it when mine died, I couldn't have finished this dissertation without you. . To Elizabeth Wardle, who helped me craft the language for the Institutional Review Board that allowed me to obtain approval for the study, I thank you for your assistance.

Finally, because I always save the best for last, I have my personal acknowledgements. To my wonderful husband Peter and my daughter Elizabeth, without your support, wise advice, and considerable donation of time, this dissertation could not have been written. You made do without me when needed, saw to it that I got sufficient recreation to recharge me, and held my hand when the stress overwhelmed me. I could not ask for a more supportive crew on this journey. It's not over yet….

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CHAPTER 1 - INTRODUCTION: RECONFIGURING TECNICAL COMMUNICATION THROUGH E-PORTFOLIOS

Teachers in technical communication have always struggled with how to deal with existing pedagogy as they prepared students to enter a world filled with rapidly changing technology. Since the advent of the Internet and its attendant digital technologies, the pace of this technological change has increased exponentially. This rapid pace, coupled with the changing nature of the public and private as we move more of our lives online, necessitates a close examination of both how we teach technical communication and how we use the accompanying technology. As well, we are moving more of our coursework online, and our classes are becoming more techno-centric, with blogs and other web 2.0 technologies entering the classroom. All of these changes necessitate a change in teaching strategies and a re-examination of the theories that drive them. Cynthia Selfe (1999) calls this a radical reconfiguration of the teaching landscape, and in both literature and practice we can see that both teachers and students are having difficulty with this new technological classroom space.

Another important pedagogical consideration in the technical communication classroom is helping students to develop an awareness of both audience and rhetoric. Guiding students' in developing their ability to analyze audiences effectively as well as encouraging them to improve their overall rhetorical savvy is a primary goal of most technical writing programs and courses. It has always been difficult to teach rhetoric because of issues of defining audience when students have only hazy notions of who may be reading their writing, but when the audience is online and mediated by technology, those concepts become even more difficult to teach and to learn.

In addition, there is the difficulty of teaching students how to develop a strong and coherent professional ethos that seamlessly transitions itself between the academic and professional world.

This is difficult enough for us to do when we negotiate our online identities with an amalgamation of Facebook and professional departmental websites. When students attempt to incorporate various online identities including their private and public selves into a coherent online ethos, they may have very little experience and sometimes very poor judgment to rely on. The media representations they see give them little help in this matter; celebrities' and other public personas are often so R-rated that it can seem that there are no consequences to this type of personal online persona.

No matter how well we attempt to target our assignments to help students develop a strong rhetorical sense of how to negotiate between these two spaces, it is still difficult for them to do so given the conflicting messages they get from the media as well the difficulty they have processing the changing nature of their roles as students and as professionals. As they attempt to develop their own identities as both students and professional writers, they struggle with changing concepts of what it means to be a professional and a writer in both the academy and the outside world. As technical writing teachers, we aim to prepare them to negotiate these spaces and these changing ethical situations because business and industry leaders are beginning to take notice of their employees' online personas. People have been hired (or not hired) and fired for the words and image that they present online. Employers are increasingly calling for their future and current employees to have a strong and coherent online presence that is fully developed and well formatted. Consequently, it is becoming increasingly vital that we teach our students to negotiate this changing ethical landscape.

As technical writing teachers, we face many issues as we design our classes, but three particular issues seem important in the face of current events in technology and the current economic climate. These three issues: the changing landscape of technology, the difficulties in teaching rhetoric and

particularly audience analysis, and the difficulties students face as they negotiate the boundaries between the academic and professional worlds, are of particular interest to us in the technological classroom. Shrinking college budgets necessitate more online classes, larger class sizes, and other adaptations to a more technological environment. All of these factors mean that we will likely be teaching both to a more technologically-oriented student population, and in a more technologically-challenging environment. So how will we adapt our pedagogy?

Changing Landscape of Technology

One of the historical problems we have struggled with in technical communication pedagogy is the issue of how to integrate technology and pedagogy. There is a historical conflict between teaching a more technologically-oriented curriculum versus a more rhetorically-oriented one that emphasizes theory over practical instruction in various technological methods. We need to prepare our students for the real world; a world in which they will be using technology, but in this world, which approach will help them be more prepared for the demands of the rapidly changing workplace? One school of thought recommends that we do not focus on teaching technology but rather turn our attention towards teaching rhetoric and theory. In this world, the preparation that students receive in these fields would prepare them by giving them a well-rounded background in theoretical concepts that would allow them to evaluate the technology that they will later encounter and work with it seamlessly, tailoring it using their superior rhetorical skills to their and their audiences' needs. In this pedagogical approach, students are typically expected to learn technology, but on their own time and to develop a technological base by learning and doing outside of the formal curriculum as the need arises.

One problem with this approach is that students often hate it. They look at the technology requirements in job ads and feel that they are not being prepared at all for their future career. On

the other hand, theorists such as Saul Carliner (2001) argue for a stronger theoretical base to technical communication instruction. This argument focuses on preparing students by giving them a solid grounding in the background and theories of technological communication, leaving the technical education to the corporations that will eventually be hiring the students. The main argument for this approach is that the rapid pace of technological advancement makes most technology obsolete by the time a student graduates, so they will have to relearn technology for a specific corporation anyway. These proponents of theoretical technical communication instruction feel that we are too focused on teaching technology, but our students often feel exactly the opposite.

Conversely, however, if we heed the students' wishes and focus on a more technologically-oriented approach, we may make them more employable at the expense of their long-term viability as anything other than skilled laborers. Concentrating on the technological aspects of teaching writing may give students a practical skill set, but it does little to prepare them for the rapid pace of technological change itself. By concentrating on a specific technology students are ill-prepared to deal with rhetorical situations surrounding new technology. They may very good at using a particular technology but not very good at designing documents using this technology. By combining a mix of rhetorical, technological and theoretical knowledge, students are better prepared to meet the changing needs of the workplace and to adjust to rapidly changing situations; the problem is convincing them of this.

In particular, the rapid pace of technological change gives rise to a new need to define literacy for our students in new ways. This new literacy; technological literacy, will be both an important skill for our students to learn and an important concept for us to research and teach.

Classic Problem of Teaching Rhetoric

It is typically one of our pedagogical objectives to help students understand the rhetorical situation inherent in their writing situations, and understanding the rhetorical implications inherent in their professionalizing activities is equally important. One of the classic problems in teaching rhetoric is the difficulty inherent in getting students to properly identify and classify their audiences. Karen Shriver (1996) classifies this as one of the most difficult concepts to teach students, because it is one of the most difficult concepts to understand and to define as technical communicators. When I talk to students in class about audience, they typically only have a hazy concept of the professor as audience for reference. Their papers when they come into my classes have mostly been written towards a single referent (whether me or another professor) or to a very small group of their peers, and while they may be able to imagine a wider audience, they do not have a good conceptual grasp of what crafting a product towards that particular audience demands. In composition, audience analysis has always been a hot topic, from Houser and early research into teaching audience analysis in the 70's and 80's to Flower and Hayes' (1980) work in research in researching how writers construct audience through examining their writing goals.

Modern audiences, however, are even more difficult to examine and conceptualize than when Houser was researching early attempts at teaching audience analysis. In the early days of audience analysis, at least, an audience could be defined by physical boundaries such as "technical writers working for ABZ corporation" or "users within the 32922 zip code." One of the major problems today is that when you move this audience analysis process online, the existing issues become more complex. By removing the writer and audience from proximity to each other and moving one or both of them online, you remove many of the social cues by which students learn to construct and identify rhetorical moves. This removes many of the existing methods for helping students gain a real understanding of how an audience will use its document, as well as ways they may

conceptualize how their document may be fashioned to reach a particular audience. As well, this muddying of the audience analysis area raises some issues with students as they create their own identities online.

Issues with Creating an Online Identity

Another of the problems that lie between the technological and the rhetorical issues is what happens when we attempt to interpret ourselves as online entities. It is difficult enough to represent ourselves in writing/text, but doing this online in the spaces between text and graphics is particularly difficult for students who may not have as much experience in negotiating both online spaces and rhetorical situations. In these new writing spaces and situations, the need for new writing genres and identities becomes highlighted, sometimes with startling focus for writing teachers.

I used to have an exercise that I did in class where I used students' MySpace pages; displaying their drinking pictures for the whole class so that they could see how easily they were viewable by their fellow students and future employers. Most students caught on quickly and now most of them come into my classes with these pictures already set to "private." This public/private debate is quietly raging on Facebook and other social networking sites as we try to define what should be public and what should be private online.

The companies who manage the online data, users, employers, scholars and instructors all opinions on what should be private and what should be public online but what really counts in this debate is what users do with their own information and how they manage their online personas. The companies who profit from these spaces and the rapidly changing online genre itself will define this issue for us if we're not careful and if we don't teach our students to examine this issue critically as well. By incorporating issues of privacy and ethos into our curriculum we participate in

this important debate and help to shape this new genre through our students' and our own social actions. In these mediated spaces we are rapidly creating new genres, and it is important to teach our students how to work with them, rather than to allow these spaces to act on them without thinking carefully about the repercussions.

New Media Complications

With all of these technical communication issues, one issue comes up again and again; what happens when old conflicts encounter new media. Scholars such as Cindy Selfe, Anne Wysocki, and Johndan Johnson-Eilola (2004) have been conducting a close examination of how we interact with these new media forms, as well as how these media reconfigure both our teaching and learning. In "Writing New Media," Selfe (2004) argues that this medium is inherently visual, and that only by incorporating visual literacy can we gain an understanding of the writing and learning that goes on within these spaces. But we may argue for an even wider definition of this new media literacy, given the proliferation of audio/visual/textual/something totally new and yet unimagined to which students and teachers are being exposed on a daily basis. How do we incorporate all these different mediums into our classrooms (assuming that we even should)? How do we evaluate and assign value to something that is inherently more complex and more diffuse than the written word, which is itself complex enough to assess?

One solution posed by many leading scholars is to not attempt to evaluate a single composition at all, but to move to what they consider a more holistic form of evaluation, where students are asked to submit a larger sampling of work that occurs over time and space – an e-portfolio.

E-portfolios as New Media Cases

One reason e-portfolios may help us develop a close examination of the issues of technology and rhetoric in the technical communication classroom is that they are situated in a unique

pedagogical position. For one thing, the e-portfolio occupies a singular place in the rhetorical situation, as they are often pedagogically an attempt to bridge the work/academic divide. Many professors (such as myself) use them in an attempt to meet many of the professionalization goals of a course, including developing a professional persona, creating a situation in which students are motivated to learn job-seeking skills and pursue information about writing in their discipline, and even as a research tool to motivate students to learn more about various aspects of technical communication such as usability testing and web design.

They are also a unique and complex genre, incorporating elements of professional presentation such as the resume and cover letter, as well as some elements of private and visual communication, as job-seekers tend to include biographical information and personal photographs on their portfolios. E-portfolios are also technologically complex to produce, as they require at least a basic knowledge of web hosting and web design. In addition, they are a high-stakes vehicle for a students' rhetorical knowledge, with their future career on the line as an incentive for production and development. So they combine many elements of a complex rhetorical situation in one new media element, which makes them an interesting case for this research study.

In my own technical communication curriculum, e-portfolios are an important course element, as they occupy the place of a semester-long project and serve several learning objectives within the course such as encouraging reflection, teaching students about design and serving to encourage information fluency. In general, they are also an important curricular movement, and we have done quite a bit of research on assessing these student creations from the perspective of program and teacher development. Blair (1997), Carrol (2005), Condon (2007), and others have focused on examining how e-portfolios enhance a curriculum by encouraging reflection and providing authentic assessment tools. Less is known, however, about how portfolios shape literacy and

identity on an individual student basis. I am interested in exploring the areas where technology, identity, and rhetoric intersect. By looking at individual cases of student e-portfolios, I hope to discover how students' rhetorical choices are reflected and hopefully enhanced by working with their e-portfolios.

Dissertation Purpose

This dissertation arose out of my need to incorporate e-portfolios in my own classroom and to improve my students' and my experiences with this technology, but also out of my interest in improving my own and my students' rhetorical skills and online ethos. My teaching philosophy is circular – as my students learn so I learn and the process of teaching and learning with them led to me reflecting on my own difficulties creating and designing my teaching portfolio. My own struggles seemed to mirror my students' and so I began to question how we learned to create our online identities and rhetorical awareness. As both an instructor and a learner, I adapt to these roles fairly intuitively, but how do I help my students become more rhetorically savvy and technologically adept?

Carliner (2001) notes that the role of technical communicators is changing, and that as students are required to move into roles approaching information designers rather than wordsmiths, "information designers (as well as other types of technical communicators) will also need to develop competencies in the technology they're communicating." Technical writing instructors are facing this changing information and technological landscape along with their students, and this dissertation is an attempt to address some of the issues that we will be facing as we move forward into this new arena together.

As an instructor, one of my course goals is to help my students develop skills and coping strategies for keeping abreast of rapid technological change. About three years ago I adopted e-

portfolios as an exploration tool for understanding technology and rhetoric in several of my courses, and overall I was pleased with the results in both student engagement and with how I felt that this tool helped them meet that goal. But I did see students struggle with the assignment, and in those struggles I identified some interesting issues that seemed to highlight some larger issues within technical communication pedagogy. As I examine in this dissertation what made this assignment particularly challenging and what students struggled with, I hope this may give us some perspective on how to develop pedagogical strategies that help them navigate a rapidly changing technological landscape. An important part of learning new technologies is to have technological adeptness to begin with. But does existing technological skill translate into an awareness of the rhetorical situation surrounding technology?

This study involves examining how students use technology to create portfolios and other types of online identities, and conversely how these online creations shape their technological literacy. In addition, I examine their rhetorical choices as they work with these online spaces in order to learn how these choices are reflect their struggle to form a cohesive online identity. A pedagogical study that addresses how students learn about technology and rhetoric through a lens of e-portfolios may give us insight into how our students form online identities and how they perceive professional identity, as well as how these professional identities are perceived in the workspace. This type of study is an attempt to answer research questions such as:

- Did students have any concept of an audience beyond the academy? How were they constructing their audience given the instruction they were receiving in class?
- Were students who were more technologically savvy more rhetorically savvy as well?

- What did the evolution of the e-portfolio genre look like in this particular class? Would I see any evidence that these students were beginning to move past the paper resume ported online?

Looking at these questions includes exploring aspects of new media, rhetorical and technological literacies, and involves examining these portfolios in view of pedagogical as well as technological theories of new media. I chose not to concentrate on the reflective capabilities of e-portfolios; other scholars have done that quite capably. Nor did I want to research e-portfolios' assessment capabilities, which are already quite well-documented. While reflection and assessment of e-portfolios are both important and researchable areas, I felt what was lacking in the area of e-portfolio research was an exploration into the issues of how students used rhetoric and genre to create and work with e-portfolios in order to gain a greater understanding of technical communication pedagogy. This seemed to be a fertile area and related to my own discipline of Texts and Technology.

Implications for Texts &Technology

As Texts and Technology researchers, we should be vitally interested in the connections between existing research and new technologies. As an emerging and interdisciplinary field, Texts and Technology involves exploration of the ways that our existing methods and research can be extended and combined to help our understanding of how we work with new technologies. We need to incorporate existing methods for exploring boundary spaces, with an eye towards creating more understanding of how these theories work in the online spaces our students find so important.

Some of the issues that we explore in Texts and Technology have direct relevance for the design of e-portfolios, such as the pace of technological change, issues of technical and rhetorical adeptness,

and the exploration of what it means to develop a professional virtual ethos. By exploring these theoretical perspectives in context with existing ideas about rhetorical and technology, I hope to bridge the practical and the theoretical to create a deeper understanding of how our students become technologically literate and rhetorically savvy.

Chapters to Come

Earlier I identified some pedagogical issues inherent in technical communication pedagogy that I feel are also present in the creation of students' professional e-portfolios, such as the rapid pace of technological change, the uneasy link between technological adeptness and rhetorical savvy, and the difficulty in controlling and defining virtual ethos. Using e-portfolios as an example of a particularly interesting rhetorical situation, I developed a case study approach that looks at aspects of students' e-portfolio experiences in order to understand more completely how students incorporate rhetoric and technology to develop a professional virtual ethos.

In Chapter 2, I provide a literature review discussing aspects of existing portfolio research in order to situate e-portfolios within a larger field of technical communication. I also discuss the theoretical issues of genre and professional identity and how they shape the issues surrounding e-portfolios into an interesting technical communication problem.

In Chapter 3, I discuss my research design, making the argument for a case study approach since I believe that we are in a formative stage in this aspect of e-portfolio research. Although we may be at a point to do more large-scale assessment of e-portfolios in general, when discussing e-portfolios and identity we are still exploring aspects of what is involved in creating a professional identity through portfolios. This is one reason I argue for a case study methodology – to give us qualitative information about what is going on in the portfolio process, and to create a lens through which to do some creative thinking about how portfolios fit into technical communication pedagogy.

In Chapter 4, I provide an in-depth analysis of the case studies, giving voice to students' concerns and issues as they actually work with the e-portfolio itself, and exploring their e-portfolio processes as they attempted to create and work with a professional identity. I look at both their attempts at creating an e-portfolio within the confines of my classroom and their reflections on the process within the classroom and beyond, trying to draw out the issues they had in the context of their struggles with identity, technology, and rhetoric.

In Chapter 5, I attempt to tie some observations about the students' products and the information gleaned from my survey and interviews. I draw some parallels between different types of literacy and online identity, to show some relationship between technological literacy and online identity.

Conclusion

While this dissertation is hardly a definitive guide to e-portfolios, it addresses a few important issues that are lacking in much of the current e-portfolio literature. First, the issue of giving voice to e-portfolio participants' experiences. Yancy (2009), Cambridge and Cambridge (2009), and Strudler & Wetzel (2010), among other researchers have identified this as an important area for further exploration. While there is a lot of research on e-portfolios for assessment and programmatic evaluation, there is not as much about professional e-portfolios as a pedagogical tool, but there is still keen interest in using e-portfolios in the classroom.

Second, the importance of rhetoric and technological literacy in technical communication pedagogy is an ongoing issue in the field of technical communication and worthy of further exploration. Using e-portfolios as a unique case gives us a lens through which to further explore this issue.

Finally, there is the issue of the online genre and identity crisis that is happening online. This is an important issue for students as well as for employers and instructors. By using e-portfolios to examine this issue from an interesting new perspective that is both relevant and engaging to students and instructors, there is a unique opportunity for both research and learning.

In all of these areas I feel I have an opportunity to explore a unique and interesting learning situation that affects both my own teaching situation and my students' future as employees and professional communicators. This dissertation should be of interest to anyone who feels that e-portfolios are an important technology, but also to those who are interested in the areas of new media and technical communication.

CHAPTER 2 – LITERATURE REVIEW

How often has a user downloaded a "new" technology only to find that another release is already available? Tried to adapt your assignments to reflect the situations that students would be facing beyond the classroom? Responded to an email from verysexylady@aol.com about a classroom assignment while sighing at the image that they were going to present to a potential employer? Some of the potential issues facing technical writing teachers today are reflections of problems that have always faced us – the rapidly changing face of technology, adapting to students who are technologically adept but rhetorically not quite as savvy, and developing ways of teaching ethos in a world that is evolving virtually.

Technical writing teachers have always struggled with these problems but the virtual world is bringing the issues of rapidly changing technology, rhetorical awareness versus technological adeptness, and virtual ethos into sharper and more urgent focus as we attempt to negotiate the new virtual classroom environment. Bringing e-portfolios into the picture can help us highlight some of these issues and examining how students attempt to deal with e-portfolios can provide a lens through which to view our own attempts to bridge this virtual divide. I turn to the literature from three different fields; technical communication, rhetoric, and genre theory because online communication has long been an interest area for the technical communication field. The areas of rhetoric and genre theory provide a focus on audience awareness, and the problems that translating an existing genre online bring to a new communication medium.

As teachers of technical writing, one of our main tasks is to help students become agile thinkers and writers. They face changing job situations and fast-paced technological environments, as well as challenging rhetorical situations. There have historically been problems inherent in our pedagogical approaches to this rapid change in the technological environment, and literature from

the fields of technical communication, rhetoric, and genre theory have attempted to address these gaps with varying levels of success. In our classrooms, we attempt to design our assignments so that they deal with some of these issues. In addition, our students are looking for practical assignments that relate to the world outside of the classroom that may not be ideally suited to teaching these concepts. Particularly in the economic climate of the current recession, students are looking for ways to set themselves apart from their peers, and e-portfolios may provide both a way to do this as well as a way to address some of these pedagogical issues such as the rapid pace of technological change, the difficulties in teaching rhetorical situations, and the problems with forming a coherent and authoritative ethos online.

Teachers of technical writing have a particularly difficult time both teaching and dealing with their own technological literacy – the main problem seems to be the rapid pace of technological change. This issue seems to be particularly problematic in new media, and as my students created their e-portfolio projects, I saw them struggling with software and hardware as well as with their own technological prowess again and again. By looking at what other researchers have done to address and to explore these areas, I hope to gain perspective on how the students in my own study coped with these issues, and to provide some perspective on why my students struggled as they did.

There is also a difference between literacy and technological literacy. Literacy in a technological age requires a different skill set, a different mindset than literacy in a print age; there is a difference between what both teachers and students need in order to be successful teaching and learning in digital environments. As I review this literature, I look for common threads that I can apply to my own students' experiences, and ways to explain their e-portfolios from the perspective of students still struggling with the issues of both print-based literacy and technology.

In addition, my own students faced difficulties adapting to the new genre of e-portfolios. As students move genres online, they face new issues in these writing systems such as adapting to a more visual culture, negotiating the boundaries of the academic and work world, and the different discursive practices between the workplace and the academic structure. I look at the work of genre theorists such as Bazerman (1994), Freedman and Adams (1996), and Miller (1984), and attempt to identify specific issues with the new genre of e-portfolios that speak to issues my students faced creating these new systems.

As teachers, one of the most difficult areas we deal with has always been rhetorical theory – there are as many different ways and theories to teach audience as there are theorists. One thing that many agree on, however, is that constructing audience is a difficult proposition even when that audience is available and concrete to the student (Shriver, Houser, Bocci). When that audience is online, spread out across the net and diffuse, however, that task becomes inherently even more difficult. As I look at literature dealing with how we teach rhetorical theory, exploring what researchers have to say about constructing audience in general and online specifically, I am looking for ways in which we can help students develop these audience constructs in the absence of an actual audience. I review Karen Shriver's (1996) three methods of constructing audience, Flower and Hayes' (1980) study on novice and expert writers constructing audience. I also discuss Houser's (1997) audience analysis continuum and Bocchi's (1991) community audience construction process, hoping to find some guidance in developing audience analysis considerations for this new medium.

These issues, technological literacy, online genre, and rhetorical awareness, are ongoing in both technical communication and teaching writing in general. By looking at how the literature has shaped these areas we can get some perspective on new media issues surrounding e-portfolios.

Technological Literacy

If we view literacy as transformative, then what is different about how cyberliteracy transforms our literacy experiences? For one thing, it changes how we communicate. Laura Gurak (2003) defines four areas where cyberliteracy changes how we communicate: speed, reach, anonymity, and interactivity.

The first area, speed, affects us as professors in online classes particularly. The huge volume of e-mail that we receive from our students and the pressure we feel to answer it within 24 hours often defines our online class experience. Whereas once a problem might have waited until the next class meeting, now it has to be answered immediately if not sooner. This changes our interaction with our students as well as our expectations of the online class experience. This also creates a more casual atmosphere online. When online items are posted quickly, there is a tendency to proofread less carefully and to accept a less rigorous level of accuracy, leading to a laxity of standards online (Jones 2008). Things change so rapidly, our thinking goes, so why should we bother to make them perfect? Students creating e-portfolios can also suffer from this casual atmosphere – while we expect job search materials to be perfectly crafted and designed, the casual atmosphere online often shows up in students' e-portfolio efforts.

The next area that Gurak defines as important to online communication is reach – the ability of users in broad geographic and interest areas to find and communicate with each other across time and space in a way that was impossible before the advent of cyberspace. When students in other countries and cultures can begin to take classes together without physically meeting, new issues in cyberliteracy arise that can affect students' e-portfolio processes.

The anonymity and identity issues are a problem as students begin to craft their intended audience, as I discuss in the rhetorical section. Gurak discusses the famous "Eliza" psychological

experiment as an example of the effect of anonymity in online spaces (38). According to Gurak, that the audience doesn't realize who you are online has deep implications for the construction of online audiences, and also for constructing identity online. She brings up an important codicil to an old *New Yorker* cartoon that reads: "in cyberspace, no one knows you're a dog."

Hawisher and Selfe (1997) note that bringing the computer into the classroom changes pedagogy in a way that affects both student's literacy and their rhetorical intentions. Being literate (or fluent) with technology means more than just knowing how to use a program; it means knowing the rhetorical and societal conventions behind the mechanics so that these rapid changes don't mean total disaster as students learn to manipulate the software. As students learn to create e-portfolios these rhetorical and technological pedagogical issues are highlighted quite starkly. It is more important that students know why they are using a program in a certain way rather than to simply know the mechanics of manipulating the software to achieve a result that is prescribed by an outside agency such as an assignment.

Just the act of using computers in the classroom equation is an evocative act. Selfe (1999) argues that computers change the critical issues inherent in pedagogy. She highlights the optimism rampant in literature wedding computers and technology; computers are going to change education, the literature says – they will create students who are engaged in their work and computer literate. But these technologies can also mask problems with a veneer of sophistication; because a student can create a flashy menu option does not mean that the menu is easy to navigate or that the information contained therein actually means anything. The problems students have with rhetoric, writing, and identity are still there; they just have one more thing to concentrate on; getting the site built in time for the assignment deadline. And the institution seems to provide little help to students in this respect.

Another issue facing teachers and students both is the issue of support for digital literacy – how much literacy support do students need, and how much should instructors provide? How much is up to the students themselves? Devoss, et.al. (2004) favor a more student-directed approach in which the students take the lead in their own literacy through reflection and self-examination. The authors have an interesting set of case studies on technological literacy in "Literate Lives in the Information Age" in which they review four people whose lives have been impacted by the advent of technology. DeVoss, who created her technological PhD dissertation at Michigan Tech, features prominently here; her dissertation is an example of a literacy "remediating" an existing technology (the dissertation) as the e-portfolio has remediated the paper portfolio. These case studies illustrate how far students can come with self-taught digital literacy; one of the issues the authors bring up is that institutions fail to deal with nimble technologies in a way that students can use. All of the students were forced to learn technologies themselves because none of them were provided adequate technological instruction. For one reason or another, all of their institutions failed them when it came to developing technological literacy.

In contrast to Devoss' self-taught students, however, Selber (2004) favors a more teacher-directed approach, with the teacher guiding the students' process through a series of scaffolding techniques towards an eventual goal of complete digital literacy that he describes as rhetorical literacy. Selber, in *Digital Literacies*, does not see rapid technological change as a technological problem, but rather as a problem involving stages of knowledge of how to use technology. He defines the way he thinks we should look at technology as change motivated by social forces. He also provides a multi-layered definition for new types of literacies based on technological change, which he labels functional, with computers as a tool and students as users of these tools: critical,

where the emphasis is on the student as an examiner of the technology, and rhetorical, where students move beyond examination and into producing both the technology and the text.

In Selber's concept of the issue of how much support to provide students for digital literacy, the model he proposes provides a framework of learning to help scaffold the student towards a model of technological literacy; as the student moves between functional, critical, and rhetorical literacy, they move into a more critical understanding of the technology. In this model, however, the student is guided by an outside model rather than by the strictly self-directed model described by Devoss, et. al. This raises the issue with e-portfolios of how much support to provide students in their learning processes. I provide many resources for students such as software sites and help videos, but due to class sizes and time constraints, I cannot provide much one on one instruction in how to build a portfolio. So how self-directed should students be in this process? I try to strike a balance between providing enough help and giving them freedom to explore, but this is certainly an ongoing issue that needs more attention.

Finally, in any discussion of digital literacy, it is important to carefully examine the term itself. When we are talking about digital literacy, we are talking about a hybrid term; a term that is now so commonly used that it has its own global standard (http://www.gdlcouncil.org/index.html). This term is casually tossed about by administrators, teachers, politicians, newscasters, and others as if it is the solution to all of the nation's and the world's ills. I myself often used the term casually, as a way to legitimize my computer studies and make them more academic; but as I began to examine this term more closely, I began to be alarmed by my own casual use of literacy as a defining principle. However, if we unpack this term into its constituent principles, it becomes more complex. Literacy, as laid out in Wysocki and Johnson-Eilola's "Blinded by the Letter," (1999) is a

complex and loaded enough area to explore. The casual use of the term as a legitimizing agent, as I have done, without unpacking and carefully examining the "literacy myths" is unacceptable (350).

The first myth I want to examine is that literacy, and by association, digital literacy, is the great leveler, and that by becoming "digitally literate," all students will profit. While it is true, most students who take my class will benefit from creating an e-portfolio, and from becoming more digitally literate, we must be careful to not assume that this is true for all students. We must also be careful not to assume that digital literacy is equally attainable by all. There are many barriers to digital literacy that we already know about, some of which are discussed in literature about the digital divide (Kramarae's "Third Shift," (2001) Journell's (2007) exploration of e-learning as a possible solution for the digital divide). But there may be other barriers to digital literacy that may become extant over time, or that may never become revealed; we should not assume that we know all about this issue because it is probably as complex as the people who participate in the making of digital literacy.

Going forward cautiously, then, with the term digital literacy, I see in my own research an examination of this term, but also a potential for expansion of the term literacy. It is true that this is a loaded term, but in the e-portfolio setting the visual and textual elements do combine to form a type of hybrid reading/writing/creating, and if we don't call it literacy, then I ask what we should call this process? Part of my task in examining students' e-portfolio efforts is to unpack the baggage that they bring to the process, and questioning this term, as Wysocki and Johnson-Eilola suggest, is an important part of understanding the issue.

So in the end, technological literacy, or digital literacy, is a complex and loaded issue, involving access, rapid technological change, academic and administrative support, and issues of rhetorical literacy. By identifying these issues and providing students with the support they need

to be successful, we can minimize their problems in the other areas of e-portfolio development, and hopefully maximize their growth as technical communication majors.

Identity Crises Online

Another complication of pedagogy in online systems results from a less technological but still pressing situation – the identity crisis that happens when we move our information online. I was looking at my Facebook account the other day, and I did a quick analysis. 75% of my "friends" on Facebook are professional colleagues (fellow professors and administrators), 22% are personal friends including family, and 3% are students. The 3% shocked me – I hadn't even realized that I had accepted former students as "friends." That they could see my status updates rattled me a bit. I hadn't posted anything too alarming online (I mostly use Facebook to update my support group on the progress of my dissertation, in fact) but the fact that I didn't even realize I had accepted certain people as friends highlights the issue that we are often blurring the professional and personal online in ways that we never have before, and this is an important facet of students' online experiences. I define this as an "identity" crisis after reading Sherry Turkle's *Life on the Screen*, and *Alone Together* (1995, 2010) in which she defines struggles with online personas and mechanical identities. I see the online world as inherently different enough to warrant another identity, and negotiating who this person online will be forms the basis for a new identity.

In addition, every time we redesign an assignment to move it online, we are creating a mediated genre. Genre theories stress the social aspect of genres; that they are created in areas where people interact, and these online areas are becoming increasingly difficult for students to negotiate. By discussing the works of genre theorists such as Freedman, Bazerman, and Miller, I hope to open up the discussion to new theories of genre systems. Genre theory seeks to identify specific issues inherent in particular types of writing spaces and e-portfolios provide an example of

a new media space that is inherently problematic for students as they attempt to negotiate this new contact zone.

The writing situation in the workplace is so different from the writing situation in the academy that students have great difficulty moving from one arena to the other. In *Worlds Apart,* Dias, Freedman, Medway, and Parés (1999) defined some characteristics of university writing, such their position that university writing is almost always social in motive, situated in the discourse between the class and the professor, and involves students receiving very little input as to form from outside entities such as templates and models. In this setting, writing was almost always genre-distinct, as well; writing functioned quite differently in one class, for example, from another.

In contrast, in the workplace, Dias, et al. characterized writing as more codified and stable, characterized by what he termed "Ideological-Discursive Formations (IDF's) which Faircloth refers to as an ordered set of discursive practices associated with a particular social domain or institution (119)." This becomes in the workplace "the way things are done," and those of us who have worked in technical communication have experienced this "just because" motivation for designing a document in a certain way, seemingly with no examined reason for the idea behind the notion.

These differences noted by Dias et. al. are important as our students negotiate the boundaries between the academy and the workplace. They may have difficulty moving from the unregimented, relatively simple, untemplated system of the academy where they can exercise a lot of control over their document design and the focus of the assignment is on learning the material, into a complex more regimented workplace where documents are designed based on a template system that follows company mores and rules and the focus of the rhetorical situation is on influencing situations and bringing about actual change – a situation that is not often possible in an academic setting (220). In addition, their work is judged on a different basis in the workplace, and

with multiple readers for each document, there is an increased rhetorical opportunity inherent in the workplace (223). Particularly within large organizations, engagement in these genres promotes ways of knowing and an orientation in the power structures of the workplace situation that a new hire is not yet familiar with (230). As typified in the negotiations faced by the architectural students, these conflicts can be jarring.

One of the most substantive issues facing students negotiating genre is the issue of transfer. When students complete an assignment in academia, how well does that assignment prepare them for their work in another class, or in the world beyond the academy? In "Wearing Suits to Class," Freedman and Adams (1996) discuss the situation of students who have difficulty moving beyond the classroom and creating a professional persona. These students still write to the professor as an intended audience, no matter what direction the writing teacher gives them to direct their attempts to an audience of professional reviewers. Students still have problems learning the new genre of professional communication, and of moving beyond the genre of classroom communication and into the workplace. Of course, learning a new genre of any type in the classroom setting is difficult (Downs and Wardle (2007), Perkins and Salomon (1989)) but the transfer of learning from the college setting to the outside world tends to be particularly problematic as indicated by Freedman and Adams' studies of students writing for the outside world. In their work, students had particular difficulty writing for outside audiences no matter the situation or the assignment; they could not shed the idea of the professor as the audience without great difficulty.

Looking for evidence of transfer, Freedman and Adams (1996) examined students' writing for evidence of attempt to craft writing towards a workplace audience rather than an academic audience. In their study, Freedman and Adams examined a professional writing course, interviewing both the professor and the students, and then analyzed the texts produced for

syntactic cues that signaled rhetorical purpose. They found ways in which the university shaped the writing that have implications for writing research in general, and in e-portfolios in particular. When they compared the students' writing with real-world writing, for example, they found a distinct lack of real-world action in the epistemic writing produced by the students – they produced the writing, but it did not orient as closely with real-world situations as the authors hoped they would. Often the student would still refer to issues within the classroom rather than relating the narrative to real-world issues, for example, revealing a lack of ability to move towards real-world problem solving. No amount of academic prompting on the part of the professor seemed to be able to make up this lack.

This academic focus is still a problem with e-portfolios, even though we would expect them to be able to bridge this gap somewhat. Students still focus their attention on the assignment; on getting through the course, even though we direct them outward towards a real-world audience. Even the immediate focus of job-hunting doesn't seem to be enough to bridge this genre gap, for some students in my class were both job hunting and working on the course simultaneously. This transfer problem seems quite persistent, no matter what the assignment or the writing situation.

Another problem with moving genre studies online is that we still don't fully understand the nature of online communities. Miller (1994), in "Genre and the New Rhetoric," problematizes the theories she put forth in "Genre as Social Action" (1984) to incorporate some fuzzier boundaries between genres and communities. She feels it is more difficult to define genres than she originally posited but that they are still an important way that individuals can communicate certain values to the collective. Miller's work, however, does not deal with the online world, and this is a way that e-portfolios can perhaps incorporate some of the issues Miller references with real-life genre issues.

When the community action is online, we lose many of the social markers for negotiating community, and herein lies the difficulty. Miller feels that genres have the power to structure community action and identity, but there is little control over how genres are distributed and read online, so their effects and action on community and identity is even more poorly understood online. We are currently negotiating the issue of who views a students' e-portfolios when they are moved online even at our University. It is relatively easy to maintain control over a paper portfolio, but when a portfolio is moved into an online space, these issues must be negotiated, and who does the negotiations is important. Will administrators decide who has access to students' portfolios or will they? Should the information be locked down so that outside audiences are carefully controlled? Should this be a convention of this genre? Does this really benefit students or the genre? This is not simply a privacy issue (and indeed it is an issue of privacy) but it is also an issue of negotiating community genres. This topic raises more questions than I am able to deal with in this dissertation, but it is an important one to raise when talking about genre and social action and the online world.

When a genre moves online, it typically looks a lot like the old genre (Shepherd and Watters (1998); Yates and Orlikowski (1992); Herring, et. al. (2004)), but as the form and function of that genre develop through community action and repurposing, the final form may become quite different in a process that Shepherd and Waters call genre evolution. Facebook, for instance, still looks rather like a coffee shop message board, with messages posted by members, some space for personalization, and a limited timeframe that messages remain active as management clears the boards to make room for new messages. Sheppard and Watters classify genres as extant (based on existing genres) or novel, based on entirely new affordances, but as repurposed resumes, e-portfolios are quite clearly extant genres moved online, and as such suffer from some of the

growing pains that extant genres seem to suffer from in the beginning, until users become brave enough to begin to explore the limits of the space and the affordances of the both the genre and the constraints of the medium. Through genre evolution, e-portfolios may eventually become something totally different from the online resumes that they currently resemble.

But until both users and guides begin to test the boundaries of the new genres, the e-portfolios students produce will continue to mimic the genres that they produced before, and will be little more than paper portfolios or resumes put online. As a relatively new, as-yet-un-evolved genre, the e-portfolio is a good example of what happens to a genre when it moves between a space, the academic and the workplace, and between a mode, the paper and the online world. As this type of un-evolved genre, the e-portfolio raises interesting questions about genre, such as how students learn to create genre in these spaces, how these genres evolve, and how we as teachers can help guide students in evolving them.

Another genre issue that students face is the issue of incorporating visual literacy into this evolving genre. As students wrestle with the parameters and constraints of the genre, they also struggle with how to work visuals into a rather solidly print medium. This is an example of how this genre is beginning to evolve, and they are incorporating more visuals, but often they are not sure of how to do so.

Rhetorical Awareness and Audience Construction

In addition to the struggles students are having with evolving genre, students are also struggling with the changing rhetorical situation of moving their portfolios online. Students have always had difficulty with the concept of audience and rhetorical awareness. For me it is the most difficult rhetorical concept to teach, and virtuality complicates it enough to make it even more difficult for students to conceptualize. When your audience can be mostly constrained and

researched, it is possible to teach the research and analysis skills necessary to analyze the presentation to a particular audience, but when anyone in cyberspace could potentially view your product, how can students produce a coherent product that speaks to a particular audience? Some researchers are taking on the task of examining rhetoric online, and we look to them to frame some of the difficulties inherent in this new genre, including how to target a diffuse and difficult to conceptualize audience, how to help students learn what it means to research an audience when there are so many considerations online.

Technical communication literature has always argued about the concept of constructing audience, from the mechanical aspects of identifying audience demographics to the incorporation of theories from cognitive psychology from theorists such as Houser, who discusses audience awareness in the context of usefulness (1997). As technical writing research has explored the differences between writing to simulated and real audiences, some interesting concepts have emerged.

One of the biggest problems with teaching audience awareness is how to construct an audience when you may not have a real audience available for students. In the classroom you often can't just go out and recruit real people to test your instructions, but this is often the best way to get feedback on them. This lack of a physical audience can be approached in various ways, but Karen Shriver (1996), in *Dynamics in Document Design*, identifies three major audience analysis methods for teaching technical communicators, including classification, feedback, and intuition driven models. She argues that the feedback driven model, which incorporates real audiences, is inherently superior to either the classification or the intuition models, which involve either attempting to create profiles of typical audiences from data, or imagining the audience based on a writers' own experiences. While it seems obvious that a method that uses a real audience would be

superior, this method was not in wide practice until recently (Barnum, 2002; Miller, 1979). There are some drawbacks to using a real audience, of course, including access to real people and budgetary/time constraints. In general, however, research from the field of usability suggests that it is best to use real people when possible.

Houser (1997) defines this audience construct as a continuum, where designers move between real and imagined audiences as a project progresses with each type of audience assuming importance at different phases of the project. In the beginning, when a project is being designed, it can be helpful to incorporate focus groups and specific audience research techniques to determine need. After the project is underway, it is helpful to get real audience feedback at crossroads such as testing and problem-solving, but it would not be cost-effective or practical to use real audiences throughout the development process (159).

There may also be even more of a problem when novice writers, such as students, engage in imagined audience construction. In a 1980 study, Flower and Hayes discuss how writers rely on their stored models of the rhetorical problem to proceed in their writing. They found that novice and expert writers varied greatly in the amount of audience analysis that they did. The expert writers also tended to represent their audience analysis in terms of goals for meeting the needs of that audience, while the novices did not engage in this goal-setting activity with as much frequency. The novice writers in the academic classroom, attempting to translate their portfolios online, are likely to fall on the lower end of the spectrum of Flower and Hayes' goal setting continuum.

One of the implications of both of these research paradigms comes if we look at Houser's continuum through the lens of Flower and Hayes' research into goal setting. In this case, we might hypothesize that the beginning writers in my technical communication class would be much less

likely to move beyond the imagined audience constructs into working with real audiences, because of their tendency to lack both depth and breadth in their audience analysis process.

In addition, there is the problem of virtuality. How can technical communicators incorporate either audience awareness or audience construction into a situation where the audience is constantly fluid, constantly expanding and contracting? In *Forming Constructs of Audience,* Bocchi (1991), talks about issues involving conventions and cultural implications in forming audience. He found that "forming constructs of audience entails participating in the ongoing conversation of cultural, as well as disciplinary and institutional conventions" (170). So how do students participate in this conversation when their conventions are first, not well-established because of the newness of portfolios, and second, so fluid as to be that difficult to be pinned down?

Another complication of virtuality is the issue of visual culture. When we teach documentation and design in the face to face environment, we teach relatively well-established conventions of space, perception, color, and layout. When we move these conventions online, however, students are often less comfortable in their manipulation of the visual rhetoric, and we are often less comfortable in our teaching of it. In a talk he recently gave about students creating online multimodal compositions, Jonathan Alexander (2005) talks about the pitfalls of students creating these texts as presentations. We examined several of these texts, noting that they essentially replicated the standard five-paragraph essay in a jazzier format, while still following the standard rhetorical conventions of the old media format. Students, while caught up in the production of new media, were essentially producing old media.

I have seen the same issue in e-portfolios created by my own students, where the format of a resume is carefully ported online, with no regard to reformatting for different readability

standards on the web. Pictures are added just because they can be, and videos are added because the student has them, rather than being carefully crafted and presented as a visual rhetorically designed for a different space. In *Visual Culture*, Mirzoeff (2008) talks about the historical problems with incorporating images into cultural studies as a success or failure event; images succeed or fail according to our ability to interpret them (13). Unfortunately, we are often still lagging with our ability to interpret images online, and particularly in this contact zone where so much is new we lose the familiar territory of interpreting images according to old standards.

Mirzoeff also talks about the increasing rise of overall visuality in our culture. With the rise of visuality, we tend to move our interpretation of all visual experiences in light of visual culture. This creates a two-fold problem with online sites. According to Mirzoeff, the visual is subtly "second-rate" based on a long-standing hostility to visual culture in western thought (9). If this is true, and I believe that it may be, we might view e-portfolios and students' efforts online as subtly not as effective or as "professional" as their paper and face to face efforts (I didn't really think of this when I did my study – this is a weakness that I may have to explore).

Another issue with this increase in virtuality may occur when we view online sites as a whole as a visual interpretation. When we tend to assess and evaluate these sites by visual means, even though they may still be largely textually based, we are not as familiar with assessing and interpreting these types of visual elements. What kinds of problems does this create for our students when we move text online but then interpret it by visual standards?

Kress (1999), in fact, calls this visual switch a "tectonic shift" and believes that the "semiotic landscape is being remade (*English at the Crossroads* 69). This affects both the logic and order that we read things (hierarchy is no longer arranged temporally, for example, but often spatially), but also the formality of the language is affected by this seismic shift. The shift to visuality creates a

more reader-friendly culture that privileges reader-author interaction, rather than the textual audience representation of the past.

What this means for the interpreter of these image/text/hybrids, according to Kress, is a new way of analysis and critique must be found that makes sense of this new type of social process. He calls instead for a curricula that he calls "design" rather than critique. If students are to be creators rather than users (which ties into Selber's continuum in the *Technological Literacy* section, above), critique, which "looks at the present through means of past production" is not sufficient as a means of curricular change. Design, instead, "is the essential textual principle for periods characterized by intense and far-reaching change" (87). As e-portfolio "designers," then students are orchestrators rather than interpreters, which is an important curricular distinction.

We as teachers also struggle with the assessment aspect of student e-portfolios, and we also want to encourage students to participate in assessing their own e-portfolios. In *Teaching Visual Culture*, Kerry Freedman (2003) offers some possible assessment methods for assessing student visual creations using a portfolio method that might be adapted to visual e-portfolio assessment. Freedmans' suggestions include journaling in conference with teacher input, small group critique of visual images (or e-portfolio presentation), simulations of environmental critiques (such as "art shows" or in this case career fairs to recreate the atmosphere of an actual critical appraisal and to help students see relationships between culture and their work) (156). Freedman particularly recommends group reflection and assessment, to encourage "shared cognition and cooperative learning" which she feels enhance visual learning in particular. In e-portfolio assessment, these methods could take the form of group assessment of sample portfolios to develop a visual rhetorical perspective, as well as peer review of portfolio efforts to give students exposure to different types of portfolios and visual presentations.

In light of Kress' calls for design rather than critique, however, Freedman's techniques, which are pulled from art history, don't seem to go far enough. So what other means can we use to pull students into the design rather than the critique curricula recommended by Kress? Perhaps these activities could be reframed and reworked into more technologically design oriented activities that reflect Kress' emphasis on mixing and emphasizes the social processes that both authors seem to agree is valuable for students.

Because both visual rhetoric and e-portfolios are such new areas, it is important that we carefully study the impact of working within these areas on student learning. Students and faculty have difficulty both creating and assessing these areas, and the novelty of interacting in these online spaces should not blind us to the problems inherent in communicating online. In addition, this is not just an area that students are entering for fun; it is vital to their future job search, and we must treat their future careers with respect and help them to realize their full potential as 21st century employees.

21st Century Literacies, 20th Century Pedagogies

Almost all of the authors above feel that there is a problem inherent in applying 20th century pedagogies to the online world. Unfortunately, there is a gap between what we know about online literacy, rhetorical awareness online, and genre theory in the online interface that cannot be addressed by the existing literature. In particular, Hawisher and Selfe (1997), in their examination of digital spaces, call for a simultaneous re-examination of the pedagogy surrounding the teaching that goes on in those spaces. As I became a teacher, I realized how little I knew about teaching in online spaces, but how exciting it was to be able to participate in what went on there. As Turkle (1995) characterizes this process of creating ourselves online as our "saturated selves," I found this an evocative concept – that we were not merely posting something online, but creating something

that represents ourselves (257). In sympathy with Selfe's (1999) conception of computers as evocative objects I found myself drawn to my students' e-portfolio efforts because I saw there an opportunity to re-examine some of my own practices of teaching online, and to more closely examine what went on in this particular online space.

The issues inherent in creating online spaces, including the difficulties in developing our own teaching methods to suit a rapidly changing technological world, the changing nature of genre both online and from the workplace and to the academic culture, and the difficulty in introducing rhetorical concepts of audience and visual rhetoric to students defines the struggle to develop a sound technical communication curriculum. As an exercise, e-portfolios seem to bring several of these issues to bear in a way that students find engaging and attractive. They are motivated to create these e-portfolios because they can see the value to their future careers; they often devote a lot of time to these projects and struggle quite hard to master the software necessary to create an online portfolio. By examining students' experiences working with e-portfolios I hope to highlight issues inherent in both rhetoric and technical communication, and while I realize that these issues are too large to be solved within the confines of a dissertation, examining several case studies should provide a way to illuminate the difficulties and perhaps some issues students have as they negotiate the boundaries between the academic and the professional worlds.

E-portfolios and 21st Century Literacies

Kathleen Yancy, one of the most influential e-portfolio scholars, talks about a new model of student composers in "Writing in the 21st Century"(2009), and calls for teachers to develop a new curriculum to support these new methods of composing that integrate Web 2.0 technologies – blogs, wikis, and collaborative technologies which include e-portfolios. The problem, however, is that e-portfolio literature, which is actually quite extensive, has been busy concentrating on

academic assessment rather than on student performance and learning, and so is rather scant in this area.

Articles such as Ittelson and Lorenzo's (2005) overview of e-portfolios provide a basic background in e-portfolio literature and an overview of available types of e-portfolios, which can be used by anyone attempting to establish an e-portfolio system at their institution to determine which type of e-portfolio to use.

Ittleson and Oblinger (2005) group portfolios into three categories: student portfolios, teaching portfolios, and institutional portfolios. Student portfolios, according to most literature, are presentation portfolios which students bring with them to job interviews, or which may be used for learning or reflection, depending on a course or learning requirement. Teaching portfolios, according to these authors, are used for documenting teaching experience and accreditation. These teaching portfolios are often done on software systems such as LiveText that allow tracking of certification or milestones. Institutional portfolios are often used for institutional reaccreditation purposes, and may incorporate both student and teaching e-portfolios as artifacts.

By grouping these portfolios in this way, Ittelson and Lorenzo create workable categories that illustrate some of the common uses of portfolios in universities today. They are not the only groupings, however. Portfolios may also be latitudinal, particularly in composition classes, where students gather materials from one course for evaluation purposes. These portfolios are typically reflective learning portfolios, and are studied quite often in composition literature, such as Fournier, Lane, and Corbett's (2007) two year study of e-portfolios implemented in a First-Year Composition Course. Portfolios are often longitudinal, however, reflecting growth over time in a student's work. This type of reflection is often the focus of studies on student learning. Helen Barrett and David Gibson's 2002 article, "Directions in E-Portfolio Development," compares the

advantages and disadvantages of generic tools such as HTML editors and customized systems approaches in encouraging student reflection and learning, finding that both approaches have strengths in the creation of electronic portfolios depending on whether the focus of the institution is on student learning or on institutional assessment.

Unfortunately, most of the portfolio literature deals with either institutional use or support or advice for those wanting to implement a portfolio program at their institution (Barrett, 2005; Ittelson and Lorenzo, 2005). This type of literature works well for those wanting to convince administrators that a portfolio program is necessary, but it does not address the needs of students or technical writing teachers who are interested in questions of how e-portfolios can be used to address issues such as rapidly changing technology, genre, and audience construction online. Fortunately, however, there are some authors who have looked at issues similar to these in recent literature.

J. Elizabeth Clark (2010) talks about some of the implications of Web 2.0 as she tells of a student who, through the use of revision and the real-world engagement that was provided by the audience of a Web 2.0 experience, was able to publish and engage with a real audience:

> Without the ePortfolio and her blog, Ally's work in the course would have been a series of disconnected assignments written for a teacher-peer audience .With the publication of her work on the ePortfolio and the blog, her work immediately changed focus, as she now had the ability to share her work—with those who followed her blog, with those she interviewed for the paper, as well as for her classmates and teachers. (30)

This student viewed her online publishing experience as more "real" than her classroom audience through her e-portfolio efforts, and was able to engage with the material in a more rhetorically savvy way.

In addition, Kathleen Yancy has researched the role of e-portfolios in establishing students' community and identity on the web. E-portfolios, according to Yancy, help students incorporate differing identities and multiplicities of self and through reflection, help them incorporate multiple audience experiences (2004). Thus scholars are beginning to explore the importance of e-portfolios in student learning experiences, and to show how the reflective capabilities of e-portfolios help students use the multiple formats of the web in developing technological identities.

This literature, however, still has room for work that incorporates research from the area of technical communication and rhetoric, as well as from professional communication. There is much that technical communication and rhetoric can bring to the area of e-portfolios, and much that e-portfolios can inform the pedagogy of this field, as well. By looking at e-portfolios through a lens that combines the areas of genre, rhetoric, and technical communication, and then looking at pedagogy of technical communication through a lens of e-portfolio theory, I hope to further inform the research from both areas.

In 2006, Kathleen Yancy wrote in "An Exercise in Absence" that what was missing from portfolio literature was students. Their voices, their learning, their reflection. My research is an attempt to give them voice in the e-portfolio process – to hear them as they work with portfolios, and to find out what their experiences have to say in this multivaried technical communication field.

CHAPTER 3 - RESEARCH METHODOLOGY

Study Design

New media is an inherently interesting area; we inherit the problems of print media such as rhetorical savvy and setting goals for writing, and add a layer of complexity as students struggle to deal with learning new technology. E-portfolios, in particular, provide a lens through which to examine the struggle between existing issues of audience and rhetoric and the difficulties with technological adeptness. In this study I examined students' e-portfolio process in a course section of the University of Central Florida's ENC 3241: Writing for the Technical Professions course to identify areas where they seemed to particularly struggle with issues with defining audience, ability to set professional goals and move between academic and professional genres, and technological prowess. The study examined five students' experiences using rhetoric and technology through the lens of an e-portfolio project. In a case study process through analysis of artifacts and interviews, I explored their rhetorical savvy and the technological process of creating an e-portfolio.

This research is a case study in which I examined students' e-portfolio products (including assignment components consisting of a survey, a proposal, a professional development project, and a reflective memo), then asked students about their e-portfolio process and asked them also to analyze examples of other professional e-portfolio products in an attempt to explore how their understanding of new media influenced their professional goal-setting and e-portfolio processes. I attempted during this interview section to explore issues of genre, technological literacy and web presence to determine how new media issues might play into their rhetorical processes.

Setting

This study took place in the context of a course at the University of Central Florida (UCF), a large metropolitan research institution with approximately 53,000 students as of Fall 2009. Class

sizes at UCF are often quite large, with 28-30 students in a typical section of Technical Communication. The particular course I used for this study was one of my classes which I had taught for several semesters at this University: ENC3241: Writing for the Technical Professions, which had 58 students in two sections, one mediated and one fully online. I used the mediated (or mixed-mode) section of this course which substituted approximately one hour of online work for classroom time. This course section was taught at one of the regional campuses, and had a unique student population which tended to include more working students and more returning adult students than the typical student population for this university. (SACS Reaffirmation Report Summer 2009)

I have been an instructor at this university since 2004 and have taught both composition and technical writing courses at this University as well as at the local community college. I am also a graduate student in the Texts and Technology program, so my involvement in the intersecting worlds of digital media and text has always colored my classroom experiences. For this study, I decided to use the philosophy of action or insider research as defined by Sullivan and Porter (1997), where the research is both reflective and directed at the betterment of all research participants including myself (Methods as Praxis 71). My teaching philosophy incorporates reflective practice, and according to Herr and Anderson (2005), this type of research is often attempted by those attempting to "deepen their own reflection on practice toward problem solving and professional development." (29) I have long grappled with issues of identity, genre, rhetoric and technology in my classrooms, and I am interested in exploring ways to improve both my students' experiences with e-portfolios and my own. Studying my own students offers a more immediate way to improve my own practice and to follow a system of engaged inquiry that

incorporates the fusion of practice and research that McKernan (1991) feels is important to creating a truly reflective practitioner. (22)

To highlight students' efforts at using rhetorical skills to create technological products, I collected the following artifacts from students who had turned them in during the course of the semester: a module in which students chose two professional portfolios to analyze, a proposal that asked students to develop several professional goals that they hoped to meet through their e-portfolio efforts; a technological survey that asked questions about their computer skills and experiences with technology; a final e-portfolio artifact; and a reflective paper in which I asked them to reflect on their experiences writing the portfolio.

The IRB Approval Process

In addition, I worked with the University of Central Florida Institutional Review Board (IRB) to design the study in order to protect both the identity of the students and the integrity of the data. I was studying my own students, so the IRB and I were concerned that students would be worriedconcerned that their grade might be impacted by the data collection and analysis process, so we carefully targeted the study to begin after the semester ended. I took steps, including changing the students' names to personas and blurring the students' identifying information in the screen shots to protect their identities. The IRB approval letter for this study is attached in Appendix A. Because I was studying my own students, there were some issues involved with obtaining IRB approval in this case, but carefully designing the study documents and writing the proposal to ensure that student privacy was protected allowed me to both pursue the research I wanted and to ensure data integrity.

The E-Portfolio Assignment

I introduced the e-portfolio assignment in the middle of the semester after the students already had experience analyzing audiences and artifacts. I used an e-portfolio assignment that I had created and piloted during a previous semester so that I was fairly sure that the assignment was both understandable and rhetorically sound. I also gave them a reading list which included web development and job search chapters in Kristin Woolever's Writing for the Technical Professions (4th ed, 2007) and a reading list on e-portfolios that I had put together for the class. The actual e-portfolio assignment included several parts:

The Audience Analysis Module

To encourage research into the rhetorical situation for their portfolio, I first assigned an audience analysis module. For this assignment, students were asked to find two professionals currently working in their desired profession and who had publicly available e-portfolios, and to write an essay based on the following prompt: "write at least a two paragraph essay telling us about this person. How do they present themselves as a professional in their field? What type of information do they list on their resume or portfolio? How is it arranged, formatted, and presented? How many web identities do they have and how professional are these identities? What can you learn from their online presentation?"

This assignment was designed to encourage them to think about what professionals in their discipline needed to present in order to be considered for employment. I wanted them to develop an understanding of the audience for their own e-portfolio and to begin to think about ways in which job search information could be presented and formatted online.

The E-Portfolio Proposal

To highlight the importance of rhetoric and audience analysis in this assignment, I asked students to develop goals for their own e-portfolio, using the following prompt:

> Come up with a short proposal (1-2 pages) that defines a particular set of at least three goals for your professional identity. What do you want employers to think about you? What impression do you want to project for your future career, and how can your e-portfolio fit into this impression? What do you need to learn in order to become a member of your profession?

I hoped to encourage students to think about setting goals for their future professions, and to begin to participate in the process of rhetorical development for their portfolios by considering their audience and rhetorical situation.

I planned to use this proposal to attempt to match the goals that they developed with their attempts to achieve these goals through their portfolio process. Students who were more rhetorically savvy, I hypothesized, would produce more rhetorically oriented goals in their proposal. I could then analyze the technological presentation of these goals for intersects between the rhetorical savvy that they displayed during the proposal process with the technological prowess that creating a web-based portfolio requires. The problem with this theory, however, was that most of the students in my class tended to produce very shallow goals in practice.

The Technology Survey

It was important to me to look at students who had varying levels of technological expertise, so to group the students into technological categories, I developed a survey that attempted to determine students' approximate level of technological expertise. Using the technology survey, I

identified students who had particularly high and low technology ratings. I conducted the survey with the class as a whole, and then used the results to select students who fit into both high and low technological categories, and who were both traditional and returning adult professional students. I felt that this composition would highlight issues of technology and rhetoric inherent in both types of students' situations that might be important to technical communication pedagogy.

In general, the class was more technologically savvy than I expected, although several students had little to no experience with either web creation or web usage. I defined students as users or creators based on their answers to several questions dealing with the types of media they had worked with, and whether they had simply viewed items online or whether they had created compositions or presentations. I defined students as technologically savvy if they scored high in several areas – creating technology, high level of web presence, and high involvement with technological processes.

Some of the data collection took place during the semester; the e-portfolio assignment that I used included several milestone dates throughout the course period, with a final e-portfolio project and reflection memo due at the end of the semester. During the class period, I did not decide which students would be participating in the interview process and the students did not know about the research study, in order to minimize teacher effect on the e-portfolio products. After the semester was over and final grades had been awarded I introduced the study and invited students to indicate their willingness to participate. I then selected several students to interview and scheduled interviews with them.

Data Collection Procedures

I chose to collect data within my own classroom in order to encourage in myself the same sort of reflection that I felt the e-portfolio demanded of my students. This caused several problems

with the data collection process, including how to ensure that my students and I had an authentic e-portfolio assignment experience within the context of the data collection process and how to ensure that the research process did not interfere with the process of teaching the class. Students might be reticent to fully disclose problems that they had with the assignment to me. I also realized that there is no way to completely eliminate these problems – students would not likely tell me that my own assignment was not valuable, although they were more forthcoming about weaknesses in the assignment than I had anticipated. I decided to do all of my data collection after the end of class, although I had originally planned for a colleague to do at least the interview portion of the data collection. I changed this plan because of the difficulty my colleague had in setting up interviews with the students. While they were willing to come and talk to me, they seemed to be unwilling to meet with a stranger to discuss one of my class assignments.

I realized that this would compromise the research process somewhat, as I could not entirely avoid teacher presence in the interview process, but felt that I could take this influence into consideration and perhaps even incorporate it into the research process as a reflective element.

To evaluate students' effectiveness at using both technology and rhetoric, I had to first evaluate their e-portfolio products. I collected the e-portfolio artifacts during the semester, and graded them as I usually did, but did not attempt to study them during the course period. Nor did I know which students were participating in the interview process so I did not pressure them into turning in assignments that they would not otherwise have completed. By doing this I risked having incomplete data sets for some students, but decided that I could explore the reasons for the incompleteness during the interview process with some effect. After the semester ended and final grades were awarded, I downloaded the survey results and analyzed them, dividing students into

high and low technology groups, and then further dividing them by student status (working and traditional students).

I then contacted students who fell into each technological category and who had indicated interest in being interviewed when I asked after the course grades were awarded and arranged the interviews. Most of the interviews took place in a neutral setting, such as a coffee shop or bookstore, but one interview took place at the student's home.

To explore students' experiences incorporating both technology and rhetorical situations in their e-portfolio process, I interviewed them, asking questions about rhetorical choices they made while creating their e-portfolios as well as the technological issues they may have faced while creating their e-portfolios, hoping to encourage them to talk honestly about the types of issues they faced. The interviews were set up as a reflection/question and answer section. In the interview setting, I first asked students to discuss the e-portfolio assignment, giving them prompts to encourage them to talk about parts of the assignment that were particularly difficult for them and to reflect on the e-portfolio process both in both as a rhetorical and technological exercise. This was to encourage the students to reflect on their process, but also to tease out areas where they may have encountered rhetorical difficulty in completing the assignment.

To explore students' use of rhetoric in a setting that encouraged open reflection, I decided that students would be more likely participate in the process using sample e-portfolios to highlight issues of rhetoric and design in contrast to their own portfolios. I showed them examples that I found on the web (see below for screen shots of the examples) and then asked them to compare their own experiences to that of the examples. I asked students to look at the sample e-portfolios, and to rate them in several categories such as overall site design, graphics and professional presence. We looked at the examples together and I asked questions about the design and

presentation as well as the content of the sites. This was also helpful as I interviewed them after the course was over. Interviewing them at this time risked having them forget important aspects of their e-portfolio experience since they were no longer immersed in the writing and development process. I attempted to compensate for this somewhat by having them write the reflective memo during the development of their e-portfolio which I then used to refer back to their experiences, and having them go over examples with me as an aid to getting them to remember specific parts of their e-portfolio process, but the sample e-portfolios also helped trigger specific memories about their own e-portfolio assignment. As they rated the examples, we discussed how the site's author created a particular ethos through site design, and I asked students to reflect on how their own portfolio compared to the samples.

I was interested in highlighting several issues in this study, including whether students moved between genres and between these genres online and on paper easily, how students analyzed an online audience that they could not physically define or research, and how their level of technological savvy affected their interpretation of the e-portfolio assignment.

To explore issues of how the students dealt with issues of evolving genre from paper portfolios to e-portfolios, I was hampered by the fact that none of the study participants, or any of the students in my class, had ever created a paper (or any other kind) of portfolio before. So I examined their e-portfolio products for similarities and interpretations of "standards" from what I felt was the closest paper genre equivalent to an e-portfolio - the resume. Many of the students brought up similarities to the resume spontaneously during our interviews and the evolution of the resume into the e-portfolio seems like a fairly natural remediation of a traditional genre. Many portfolios contain a resume in some form, but they are not bound by the format of the resume, so

the translation seems like it is a boundary object and subject to interpretation and open to redefining the issues relating to that particular genre.

I interviewed the students after the course had ended and final grades had been awarded and distributed, and since the interviews took place outside of class, I gave the students $20 gift certificates to a local bookstore for their interviews, which averaged about one hour per student. I tape recorded the interviews and then transcribed the tapes; taking notes about how looking at well-designed technologically savvy portfolio examples highlighted students' own experiences at creating their e-portfolio projects. The transcriptions are available online on my wiki at http://eportfolioresources.wikispaces.com/.

To explore issues of how students identified their own audience analysis process during the interviews, I chose to use three example portfolios that I felt highlighted aspects of this process.

The first example, W. Maxwell Winslow's Biomedical Engineering E-portfolio, was an example of a science oriented portfolio. He included robust examples of his work, and I felt that his portfolio could be used to begin a discussion of what types of artifacts to incorporate for a science audience.

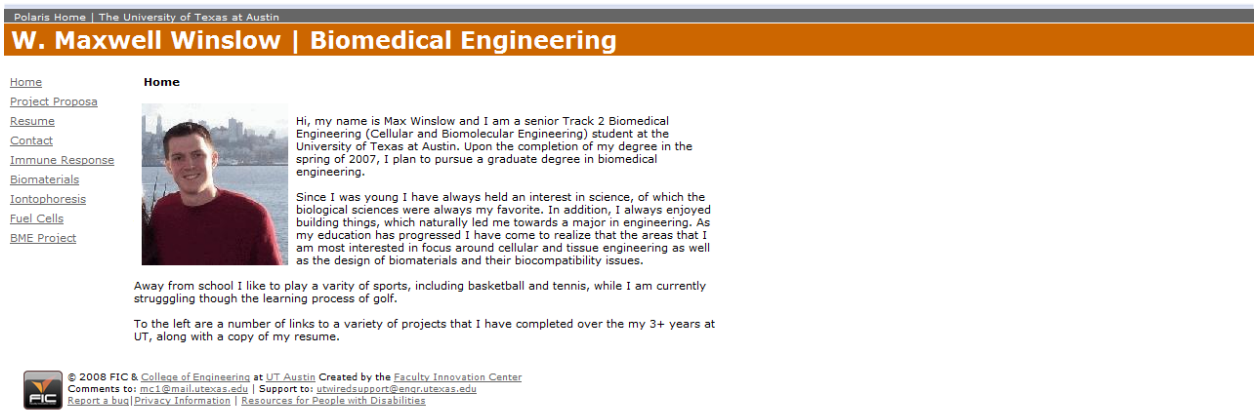


Figure 1: W. Maxwell Winslow Screenshot

The second example, A. Hughes, prominently featured a subject specific blog that allowed the owner to showcase new research and sentiments that might be interesting to employers.

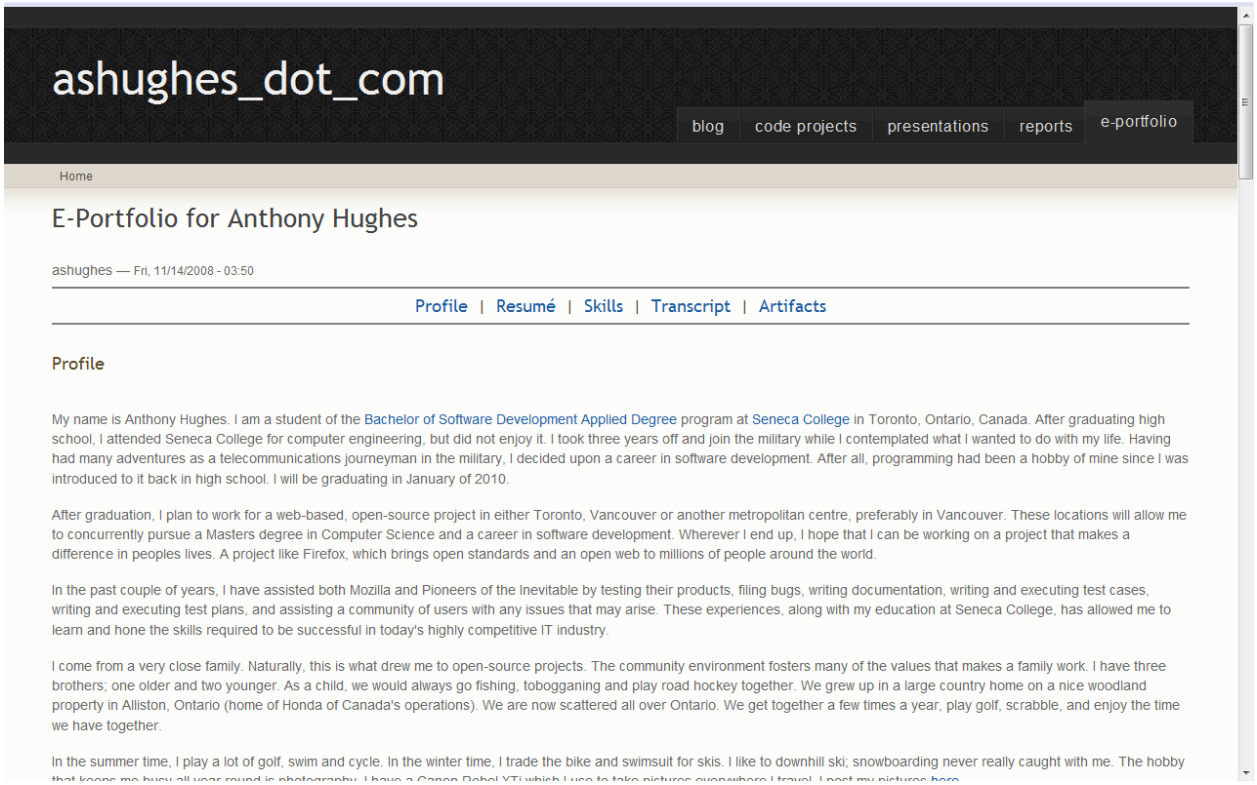


Figure 2: Anthony Hughes Screenshot

The third example, Zachary Meir, incorporated some interesting elements of ethos aimed at a writing-specific audience, and provided a way to discuss incorporating personality into e-portfolios as well as issues of integrating graphics and text.

Figure 3: Zachary Meir screenshot

After we had assessed the examples, I asked students to assess their own e-portfolios and to give advice to future students on what they would have done differently during this assignment in order to encourage them to reflect on the e-portfolio process and how they could have improved their own e-portfolio product for a specific audience.

To explore the issues related to the pace of technological change, and whether technological proficiency affected students' e-portfolio products, I re-examined all of the artifacts after reviewing the interview transcripts, looking for intersections between rhetorical and technological issues that might highlight areas where students struggled to understand either area. For example, if a student indicated that she wished she had been able to accomplish a particular

task, and her portfolio indicated that she was unable to incorporate a technological or stylistic element, I would note this.

The interviews were fairly unstructured. I began with a series of questions and a rating scale about the sample e-portfolios to prompt the students to talk about their own portfolios in comparison with the samples (see Table 3) but as the interviews progressed I often diverged from the standard questions in order to examine areas of interest to both the students and myself. As previously noted, a transcript of the interviews is available in on my wiki.

This examination resulted in five case studies which I present in Chapter 4; each student's experience highlights particular issues students in general may have with creating e-portfolios, but they also allow us to look more closely at issues of rhetoric and technology that may affect how students learn.

In addition, because I was interested in looking at issues of how students translated their audience analysis and rhetorical experiences between the classroom and the workplace as examined in Chapter 2 in the Freedman, Adams, and Smart article "Wearing Suits to Class," (1994) I wanted to divide the students based on their working status. I also felt that identifying whether the students had alternative online identities was important to categorizing their level of technological adeptness as there seems to be an associated link between students who maintain many online identities and a higher level of technological savvy. Certainly being online longer as students would have to do to maintain a high number of online identities would seem to lead to a higher level of technological prowess.

Of the students I selected to interview, three identified as traditional which I defined as non-working, full time in school and the other two students identified themselves as working which

I defined as working at least part time and enrolled part time in school. Three of the five students I interviewed had a MySpace page, but as mentioned before, none of the students in the course reported having an alternative identity such as SecondLife or World of Warcraft. Two of the students I selected to interview fit into the "uses technology" category I describe earlier, and three of the five fit into the "creates technology" category. I classified the students I selected to interview based on the criteria I describe earlier to describe an overall technological skill rating, and determined that the student breakdown was as follows:

Table 1: Technology Categories

Group 1 Working Use Technology 1	Group 2 Working Create Technology 2
Group 3 Traditional Use Technology 1	Group 4 Traditional Create Technology 1

For the purposes of this assignment, I tried to choose students from each group, but because of difficulty scheduling students for interviews, I actually ended up with 2 students in Group 2 (Working Create Technology), only one in Group 1 (Working Use Technology), one in Group 3 (Traditional Use Technology) and one in Group 4 (Traditional Create Technology).

The reflective memo was designed to ask questions about their portfolio experience and to encourage them to reflect on the experience through prompts about their rhetorical process and goal-setting. The reflective memo was a rich source of analysis about students' experiences creating technology, but most of the students in the class as a whole did not devote much time to

the rhetorical issues generated by my prompt. This was disappointing in the context of this study, but not surprising, as technological issues seem to be much easier to talk about and to reflect on.

Study Participants

One of the main criteria I had for selecting students for the case study was to ensure that I had interesting cases to examine. I wanted a mix of high and low technologically-savvy students in order to explore the potential effects of technology on students' rhetorical efforts, so I chose students based on their answers to various questions within my technology survey. This way, I could look for dichotomy between levels of rhetorical savviness and technological proficiency. I used students from one partially web-based section of my course load that semester (the other section I taught was fully online) in order to minimize the effects of different delivery systems on the students' performance and experience. I originally planned to use only students who completed all sections of the e-portfolio assignment, however during the interview process I discovered several interesting cases among students who had only completed part of the assignment and decided to include them as I felt there might be important reasons why they had not completed all of the assignments.

The participants were selected based on their answers to the technology survey (see The E-Portfolio Assignment section that follows for a discussion of the survey results in general) as well as their performance on the e-portfolio assignment and their class participation, both online and in the face to face portion of the class.

I created a table that lists the relevant criteria and justification:

Table 2: Criteria and Justification

Name/Classification	Working?	Tech-Savvy?	Website?	Discussion
Dawn – Group 2* (Working Create Technology)	Y	Y	N	Says that she is "very comfortable" creating multimedia
Edgar – Group 3 (Traditional Use Technology)	N	N	N	Rates self as "not comfortable at all" creating multimedia and websites
Fred – Group 4 (Traditional Create Technology)	N	Y	Y	Rates self as "somewhat comfortable" creating multimedia and websites
Jared – Group 2 (Working Create Technology)	Y	Y	Y	Has website, rates self as "somewhat comfortable" creating multimedia and websites
Jessica – Group 1 (Working Use Technology)	Y	N	Y	Has 2 websites but reports self as "not comfortable at all" creating multimedia and websites

*After the interview I would change my assessment of Dawn's technological profile, but for classification purposes I kept her in the category I initially assigned to her.

Dawn:

Dawn scored quite high on the technology survey. She indicated that she had created multimedia applications, and that she was a working professional. She fit into my profile of a tech-savvy student who was likely to do well on the e-portfolio assignment. And she did, but Dawn was interesting for this case study because she really was neither as tech-savvy nor as rhetorically savvy as the technological survey indicated. But by being outgoing and forming study groups and help

sessions, she managed to overcome this lack of technical-savvy to have a successful course experience. Her e-portfolio was not the most robust in the class, but it was well designed and reflective, and her experience and interview gave some perspective into how to help students who may need more help than they seem to at first.

Edgar:

Edgar seemed quite technically- savvy, so I expected him to have a website and to be very active online. He indicated on the survey that he would like to have a website to "promote his musical career," but that he did not have one currently. He also had a much narrower online presence than some of the other students in my class. When he designed his e-portfolio, however, he had little trouble accomplishing the task and in fact helped several others in the class find sites to host their own e-portfolios.

Edgar seemed very withdrawn in class, and did not participate in class discussions unless I encouraged him by directly questioning him, but in the online portion of the class he was helpful and participated fully. The difference between his online persona and his physical presentation made me wonder what rhetorical process had gone into Edgar's e-portfolio process.

Jessica:

Jessica was an outgoing student who seemed to really have it all together. She participated eagerly in class discussions and was enthusiastic about the writing process. As a technical writing major, I assumed that she had some experience with technology. She was also the only student on the technical survey who already had multiple websites; one for her e-portfolio which was already established, and one that she had created "to keep out-of-state family members updated about the kids."

I chose Jessica because she seemed most likely to be successful in the e-portfolio assignment, but also because she actively helped other students in class to decide on a hosting platform and to design their portfolios. Based on her performance in class, I expected great things from her assignment.

Jared:

Jared was fairly quiet in class, but when pushed to contribute, he made substantive and well-thought-out comments and asked interesting questions. He always dressed nicely for class, in a button down shirt and dress pants, and he indicated on the technological survey that he was indeed a working student. Jared was also the student in the class with the highest technological score. He did not have a blog or mark himself as comfortable creating multimedia presentations, but he did indicate that he has a website and that he uses it "for fun, to practice using the markup language, CSS and JavaScript."

He was very enthusiastic about the e-portfolio assignment, and had little trouble completing the technological portions of the assignment, which I expected. He had some difficulty, however, with the rhetorical elements of the e-portfolio, including what to include and how to reach his target audience. Jared was interesting because his high technological adeptness made that part of the e-portfolio assignment easy, but he still indicated that he had difficulty with the assignment, and indeed he failed to complete the assignment in an acceptable manner.

Fred:

Fred wanted to be a website designer. In his survey, he said that he had an existing website because "for me I find that website design is a creative outlet." In contrast to his stated objective, however, his e-portfolio was neither particularly visually nor rhetorically exciting. He had a high

technological profile, but that prowess was not reflected in his e-portfolio product. In addition, during the interview he indicated that, while he was interested in the assignment, he wished he had more time to complete it. There is a dichotomy between his stated motivation to create the site and his finished product, and I wondered where the gap had come from.

The data collection resulted in five case studies that I detail in Chapter 4. These case studies reflect my own and my students' experiences in my classroom, and cannot be generalized to all student populations. But by looking at these particular students, I hope to highlight some of the issues that they faced during the creation of their e-portfolio in transferring the genre online, as well as with their identity, technology, and rhetoric that may help us to create better professionalization and writing experiences for all of our students.

As I looked at these students' e-portfolios and interviewed them, I looked for evidence of the issues that I highlight in Chapter 2. I identified certain issues that I felt were problematic in the situation surrounding e-portfolios. In particular I felt that students would tend to have difficulty with evolving genres, audience interpretation between the workplace and the academy and online, and with the rapid pace of technological change. Some questions that I felt might be important to understanding the situation included the following:

- Were students who had a high level of technological savvy actually more technologically literate, or just more technologically adept?
- As well, I wondered whether they were actually more rhetorically savvy as well? Would they consider a professional audience as they created their e-portfolio products, or would they, as Freedman, Adams, and Smart found in their study, continue to create as if the academic audience was the only consideration?

- Did they even have a well-defined concept of audience at all despite my attempts to teach the concept in class, considering that Shriver defines this as a very difficult-to-teach concept?
- Would their portfolios look like resumes simply ported online, or would the genre have begun to evolve beyond that into something more than a textual genre?
- And finally, as I talked to the students, would I find these issues were as problematic as I thought?

I designed this study in an attempt not to quantify these issues, as I do not feel that they are quantifiable at this time, but to highlight them as potential problems as we move forward with e-portfolios as exploratory assignments. We are not far enough along in the e-portfolio process to begin to understand all of the issues that surround them, but we can begin to give students the opportunity to talk about some of the problems and issues that they face as they create their portfolios, and this study is an attempt to allow them to do this.

CHAPTER 4 – ASSESSING THE E-PORTFOLIOS

Issues in Developing Online Persona

As teachers of technical communication struggle with issues of teaching rhetoric, dealing with rapidly changing technology, and attempting to create assignments that bridge the academic and professional worlds, we often must also develop alternate assessment strategies to cope with these problematic areas. E-portfolios have become a popular method of accessing authentic assessment strategies due in large part to their potential to encourage students to reflect on their past work as well as to provide an overview of work over time rather than a snapshot of a students' work in one particular course (Yancy, 2009; Ittelson & Lorenzo, 2005). As we work toward developing a better understanding of these issues, it is important to keep in mind some of the limitations of assessing e-portfolios and writing in general. The assessment I did with these e-portfolios was a somewhat subjective writing analysis based on my own interpretations of how well the students and the example portfolios developed both a professional and a digital persona. I did, however, provide an informed analysis rather than a strictly subjective one as I attempted to take into account both current literature such as Freedman and Adams (1996) and Alexander's (2005) accounts of students reinterpreting themselves digitally as I did so, but I was also aware as I analyzed these artifacts of how difficult my task was. In an attempt to be as objective and rigorous as possible, I developed a rubric that pulls from my own evaluation rubrics for past courses as well as current web best practices. While doing this, I was following a practice that technical communication instructors do for many assignments; attempting to create some sort of bridge between a subjective and objective opinion, and this research is an attempt to explore some options for giving us some language with which to do this with our students. We are always accused by our students of grading things just because we "like" or dislike a particular trait about them, and while we understand that the issue is more complex than that, it is important to have language to talk

about particular issues that work or don't work with our students. This is one of the more important characteristics to come out of this research; an attempt to identify some of the characteristics of e-portfolios that "work" for particular rhetorical situations. Hopefully we can understand from these case studies how students used rhetoric, technology, and identity with varying levels of success in their e-portfolio efforts and turn that into a better understanding of how these areas work in general to create effective e-portfolio presentations. From this we can create some terms to discuss these presentations with our students in the future and craft assignments that begin to bridge this gap between what our students worry that we are assessing and what we believe we are in actuality assessing.

As I discussed in Chapter 3, I examined these student e-portfolios, looking for evidence that the students were developing a rhetorical awareness, a technological savvy, and a professional identity that demonstrated that they were becoming developing professionals in their own fields. By looking at the navigation systems, e-portfolio contents, and graphic contents of their e-portfolios in relief with three professional e-portfolio examples, I attempted to determine how the students used rhetoric, technology, and professional knowledge to create an e-portfolio that reflected the conventions of their discipline and which reflected the technical communication pedagogy I was attempting to communicate. In the meantime, I struggled with deciding how to assess these e-portfolios at all. Should I compare the student e-portfolios to the more "professional" portfolios? How did I determine what was an "expert" portfolio anyway? In the end, this became entangled in the larger question of how I assessed both the student and the example portfolios. I had to tread a fine line between providing no assessment at all, and providing a more structured, scale-oriented feedback. I settled for something in-between, and chose three portfolios (see my description of the

selection in Chapter 3) and rated the student e-portfolios loosely against the more "professional" examples according to the following scale:

Table 3: E-Portfolio Rating Scale

Rating	Meaning
Excellent	Shows thoughtful research into the conventions of the discipline, and reflects audience analysis and insight into the needs of the audience
Outstanding	All of the above, but may be lacking in some small way, such as missing some minor convention or not well-developed in a fairly minor way
Good	Fairly well-developed according to professional conventions. Could perhaps show more attention to the needs of a specific professional audience
Average	Need to follow more professional conventions, but is developed otherwise. Needs some more attention to audience conventions or needs
Below Average	Needs more attention to either professional conventions or audience needs
Not present	Either is missing from the e-portfolio or shows no attention to either professional conventions or audience needs

After I rated the e-portfolios, I looked for common issues among the students' efforts, such as resume development, lack of projects, and sophistication of programs used to develop the e-portfolios. Having the rubric analysis allowed me to look for trends between the e-portfolios, and to examine them as a whole rather than individually as I did in detail in the case study section. Some interesting trends emerged, particularly as I observed how closely students mimicked the e-portfolio efforts of their professional peers. I discuss this further in Chapter 5, but one of the

important questions that occurred to me as I began to examine the student e-portfolios was how important my original assumptions that rhetorical goal setting, as defined by Flower and Hayes, was very critical in developing an e-portfolio and creating an effective presentation. Was it so very important anymore to follow our standard best practice of 1) set goals, 2) define the audience, 3) develop a good navigation system as I theorized, or did the template-driven process of web design and tendency to remix and remake that students tend to follow make this process less important than it used to be? How does the fact that the e-portfolio genre is a high-stakes process, in that it affects students' ability to obtain employment, affect their tendency to take risks in this area? I would suspect as they create their e-portfolios that they would be less likely to deviate from genres that they know would work than if they were creating a music website, for example.

Situating the Assignment

E-portfolios are often used in the classroom as both an assessment tool and as an attempt to bridge the classroom/workplace gap as identified by Freedman, Adams, and Smart (1994). The thinking here is that students will be more motivated to work on e-portfolios as an assignment because they can clearly see the usefulness of the assignment to their future careers, so they will more motivated to both learn the new technology and to develop new rhetorical skills in the classroom. Many educators, myself included, are beginning to turn to e-portfolios as an interesting way to engage students while sandwiching in important skills such as audience analysis, how to enculturate students through rhetorical and genre analysis, and even critical thinking.

Dias, et. al. (1994) talk about "Ideological Discursive Formations" as students learn to write for the workplace. They begin to learn the formats and the conventions for their particular workplace by observation, but also by learning from mentors and templates. In contrast, what writing students do in the university is typically social, situated in discourse with their peers, their

professor, and is genre-distinct, with each assignment being fairly course-specific (although some genres do transfer between courses, such as the literature review and the standard argument paper). As these students created their e-portfolios, most of them followed the basic assignment criteria quite closely, only including the requisite pages and nothing more. They all had a resume, and most of them included an About Me page, and some sort of Projects page. None of them really went above and beyond those requirements, and it seemed that they could not conceptualize beyond the confines of the assignment, even by searching out conventions of the genre. There are other things typically included on professional e-portfolios, such as awards, links to professional associations (or even college associations) that if the students had been "thinking like a professional" they might have included, but none of them did. All of them were writing to the assignment, rather than writing to a professional audience in the e-portfolio products. Having a greater range of professional templates to use as examples might have helped (I currently ask my students to find at least two examples of professional portfolios within their discipline) as would providing a more detailed research assignment, but this case study also may demonstrate that, left to their own devices, students strongly tend to continue to remain in the academy as suggested by Freeman , Adams, and Smart as well as by Dias, et. al.

In addition, none of the students seemed to "test" their e-portfolios with a real-life audience. They were intrigued when we began looking at the professional examples to see how those compared with their own e-portfolios, and many of them commented on how they wished they had had these examples to look at from the beginning, although I believe that if they had their e-portfolios would have just been derivative of the examples rather than of the assignment. They had practiced usability testing earlier in the semester with a real audience for another project, but I saw no sign that they had usability tested their e-portfolio navigation system or pages with an audience

(and none of them indicated that they had done so). In subsequent semesters I have made this a requirement, but I have noticed that students use their peers (ie. roommates, friends, or other convenient test participants) to usability test – this is interesting to me, because their peers are not the audience for their e-portfolio. In Chapter 2, I discuss Shriver's (1997) concept of how much more ineffective it is for writers to construct a rhetorical situation around an imagined audience, and this seems to be an example of this.

One thing that surprised me when I examined the e-portfolios as a whole was that some of the students who had fairly successful pages when viewed by themselves (for example Jessica, who had fairly well-designed project and resume pages) did not have an overall successful presentation when viewed as a whole, because their navigation system was not very sophisticated. This shows how important considering the navigation system and overall presentation of an e-portfolio is when determining the success of the e-portfolio, and also how important they are to digital literacy as defined by Devoss, et. al. (2004) Although students may be able to create individual elements that are fairly literate, unless they can combine these elements into a cohesive and well-designed digital whole, we cannot consider them fully digitally literate, because our definition of digital literacy must be expanded past individual textual elements and into consideration of this meta-literacy for the user.

Another thing that surprised me as I viewed all of the e-portfolios for analysis; even the example ones, was how often we simply port resumes online. Our design skills don't seem to extend into really conceptualizing design for the web. This problem seems to extend into Miller's (1994) ideas about understanding the boundaries of the new genre we are creating. If we are to create a really new genre in an online e-portfolio, shouldn't it look at least a little different from the old genre? But except for Aaron's e-portfolio, all of the resumes we looked at looked like a paper

resume. There may be two reasons for this, and one of them may not be as dire as I am expressing here. Because the medium is so new, we may need this familiarity until we get acculturated to the new genre. Would we recognize a resume if it didn't look like a resume? Would the old-guard business community? Are students actually perhaps being savvy by using the old conventions in the new medium and making a gradual transition to help an older culture come over to their way of thinking, or should they just blast the conventions apart and make the old medium adapt to their ways, similar to what they've done with video games and other new media? I am not sure of the answers to these questions yet, but I believe that further study in this area will begin to reveal some pedagogical implications for technical communication as a whole.

In general, the students were about where I expected with their rhetoric as suggested by other theorists (Wallace and Hayes, 1991; Miller, 1994; Flowers and Hayes, 1980) but also less technologically sophisticated than I was expecting based on popular representations in the media of students' abilities with technology (Selfe and Hawisher 1997; Alexander, 2007; Dziuban and Lorenzo, 2006). We hear so often about how technologically sophisticated our students are that we tend to expect a lot from them in regard to presentation and site development, but in this particular student population (returning adult students, in particular), I believe we have to provide a lot more scaffolding and support than we realize in order to support their development efforts and make their rhetorical choices more available. They are unable to exercise rhetorical ability if they are concentrating on trying to code a site, and as tools become more available and affordable (see the rise of Google sites as a development tool on http://eportfolioresources.wikispaces.com/ for examples of student e-portfolios developed with Google sites) to see that new technology is freeing students to concentrate more on other aspects of portfolio development. In addition, we need to develop more and better e-portfolio tools so that we can concentrate on being able to teach the e-

portfolio pedagogy and rhetoric that our students need, as well as to concentrate on the professional development skills that will help them in the workplace. Students, in turn, have to be prepared to research their own workplace conventions, and to incorporate them in ways that make sense to their own professions. They must develop Miller's genre awareness for themselves, for some professional conventions are very culture-specific. While we can give them the tools and the resources to learn these conventions, they must take them outside the academy.

Uncovering Barriers to Virtual Identity

In the next section, I detail the individual case studies. Some of the students I interviewed were very upfront about the barriers to creating a professional identity; with others the process was more about teasing out hidden barriers or uncovering processes that they may not have known were going on during their e-portfolio development period. I look at two cases where the students didn't really produce a coherent e-portfolio presence at all, and ask the question "what happened to make these students "non-producers?" In another case, a student who previously identified herself as quite tech-savvy failed to produce an e-portfolio that reflected the same vision, and I had to ask what had interfered, or if she had the correct definition of technology as I did. In each case, the students talk about issues of technology, rhetoric, and professional identity that can shed light on how we use these theories and tools in our classrooms, and what support they need from us (and from each other) in order to create a more coherent and cohesive professional identity online.

Case Studies

As I mention in Chapter 3, each of the following case studies, Jessica, Fred, Jared, Edgar, and Dawn, participated in the study after the semester was over. I interviewed them all under different conditions; some of them at school, others in their homes, and still others in the environment of a local coffee shop. I asked them questions about their portfolio process and issues they might have

encountered with either the assignment or any aspects of the e-portfolio, reviewed their own portfolios, and went over three sample e-portfolios with them (ahughes.com, Winslow Winston, and Alistair McCaine) to give them an example of types of professional e-portfolios in various fields. What I discovered about their interactions with rhetoric, technology, and professional identity are detailed in this chapter. I also ask some questions in here about why some students had more difficulty with the e-portfolio process than others, and about why a particular student may have struggled more in one area than in others.

The literature detailed in Chapter 2 reveals that some aspects of teaching technical communication can be particularly highlighted by various aspects of e-portfolio processes. For example, cyberliteracy as defined by Hawisher and Selfe (1997) as a transformative technology in the classroom complicates how students learn both in and out of the academy. The rapid pace of technology, complicated by Gurak (2003) with reach and anonymity, creates a situation where students often have difficulty interpreting and executing assignment. Rhetoric; always a difficult concept to teach, is also complicated by the online situation. Miller's (1984) communities of practice are made more complex by the online situation, and Shriver's (1997) concepts of audience construction are also complicated when the audience is moved mostly online. In addition, the difficulties inherent in translating genres and assignments between the professional and academic worlds are inherently more difficult in the online situation. Freedman and Adam's (1996) and Freedman, Adams, and Smart's (1994) studies on how students conceptualize the professional situation while still in an academic classroom is more complex when part of the classroom is situated in cyberspace.

With all of these factors contributing to a more complex situation for both students and teachers, I looked to the e-portfolio as a microcosm of the issues facing us as we move the

classroom online into the cybercentury. By talking to these students as they worked with this e-portfolio assignment and dealt with issues of rhetoric, technology, and identity in the internet age I hoped to get some sense of how we could understand the process of moving their professional identities online.

The first case study I look at is Jessica, who was a working adult student creating an e-portfolio with a technical communication background. Her e-portfolio efforts could be classified as technologically adequate, rhetorically slightly under-developed, professionally adequate. I examine her first because she provides a good example of a student who should have performed at a high level but who performed only adequately on all aspects of the e-portfolio assignment. The question I had about Jessica is which area needed the most development in order to bring the other areas into more prominence? Is there one aspect of her performance that could have been improved that would have drastically affected the other areas? The second case that I look at it is the case study of Fred, who did not perform as well as his overall achievement in my class would have indicated. Fred was more rhetorically aware than Jessica, and probably more technologically versed as well. So why didn't Fred produce a better e-portfolio than Jessica?

The third case study involves Jared, who is interesting because in spite of a well-developed technological savvy. He basically left his e-portfolio "under construction forever;" never completing it even after the end of the semester. While Jared seems fairly rhetorically savvy, and has a fairly good grasp on how he wanted to develop his professional identity, he simply failed to perform. Why? In contrast to Jared were cases Four and Five – Edgar and Dawn, respectively. These two cases were interesting because they were the highest performing students on this assignment, and for different reasons. Edgar was both rhetorically savvy and technologically proficient, while Dawn struggled with both rhetoric and technology, but still managed to produce a fairly interesting and

professional e-portfolio. Looking at what made them able to do so may shed some light on where the other students, who were not so high-performing, might have gone astray.

Case Study 1: Jessica – Adequate Technologically, Underdeveloped Rhetorically, Adequate Professionally

About Jessica

Jessica was a working adult returning to school after a prolonged break. She expressed difficulty in juggling her family, a husband, and a full-time job, but also wanted to develop her image as a professional writer and manager. Jessica seemed to be quite tech-savvy, based on her replies to the survey questions. She works in an administrative position and stated that she was in school to become a technical writer, because she wanted to "get paid to write." As a student, she was diligent and participated eagerly in class discussions, asking questions about assignments that she did not understand. She dressed professionally for class, probably because she was coming to class after her day job, but it indicated to me that she was able to present a professional persona in person and that she would be able to develop this persona into a strong e-portfolio. In her group work, she tended to be the one who clarified assignments for the group and who facilitated discussions within the group. She was not the group leader, but rather seemed to be the group's main problem-solver.

From her presentation in class, as well as her responses on the technological survey, I expected Jessica to be both technologically literate and rhetorically savvy. In addition, in her interview, Jessica expressed both an awareness of the necessity for these skills and a desire to attain them, so I had high expectations for her e-portfolio assignment. When I viewed the products of her assignment, however, it became obvious that there was a significant gap between Jessica's ambition and her proficiency. Her grasp of the technology was adequate although not highly skilled, but her rhetorical presentation in both her proposal and her reflective memo were quite

rudimentary, surprising given the sophistication of her interactions in class. This made me wonder what was interfering with Jessica's ability to transfer her interactions and presentation in class to paper and to the online e-portfolio experience. Why wasn't she able to capture the essence of her problem-solving and analytical skills in the classroom in her reflection and proposal, and ultimately in her e-portfolio?

On her final portfolio effort, Jessica received a B, but on re-examining her collective efforts, I believe that I may have been a bit generous with the grade, perhaps because she tried so hard in class. While her portfolio effort was fairly sophisticated it was still not terribly well-developed either rhetorically or technologically.

Her portfolio was aimed at neither a specific audience nor a specific situation, even though the assignment called for her to identify both. She seemed to struggle with the same issues I identify in Chapter 2 that relate to virtual audience analysis – a lack of depth and breadth to her ability to analyze her audience. To define Jessica's technological literacy according to Selber's (2004) continuum, I would have to classify her as a user of technology rather than a creator. She often suffered from frustration in trying to mold the technology to her purposes, although she did learn through the class to be a better user of the technology that she adopted for her portfolio. Ultimately I would also classify Jessica as lacking in rhetorical savvy which contributed to the lack of overall success of her overall professional persona.

Struggling with Defining Rhetorical Intent

I did find some clues to my puzzlement about her lack of rhetorical awareness in Jessica's proposal. The prompts in the proposal corresponded directly to Jessica's answers, and she really did not expand on them at all. For example, I asked students to show me what they wanted employers to think about them. When Jessica answered this prompt, interestingly enough, she

answered in third person, saying in her proposal "The e-portfolio is needed to show future employers that the person is qualified by showing their abilities to handle the position they applied for." In my feedback to her for the assignment, I noted that this level of formality, besides being written in passive tone, didn't really tell me much about what she was going to convey to employers through her e-portfolio assignment that made her different from any other candidate out there. She seemed unable to conceptualize at this early stage in the assignment what she might want to convey as a professional through her e-portfolio. She seemed to have difficulty moving beyond the classroom assignment and envisioning the audience beyond and how she might communicate with them through the medium of her e-portfolio, similar to the students in Freedman, Adams, and Smart's (1994) study. Since Jessica was a professional, this was particularly surprising to me.

In her classroom interactions, Jessica was more outgoing and self-directed, and expressed more clearly that she understood the role of the e-portfolio in shaping an impression of herself as a technical communicator. It seemed that she really had trouble conveying this impression in writing, which may have had something to do with her difficulty conceptualizing the audience, or it may have been a weakness in Jessica's writing skills. I turned to her reflective paper to see if she had any better insight later in the class in capturing what the e-portfolio experience could convey. Again, her responses in the self-reflection and evaluation memo corresponded exactly with my prompts. That is, she did not deviate from the prompts in any way or provide any reflection that was not asked for or coached. Her goals included the following: "I wanted to show potential employers several things, including examples of my work, both past and present, my work experience, and the goals I have set for my future." She also included a statement that she wanted to have a professional look for her portfolio and to incorporate some of her sense of humor in her portfolio to showcase that for a potential employer. These were very concrete and attainable goals, and certainly she did realize them in her e-portfolio presentation.

Given that her in-class presentation was so warm and funny, however, I was a bit surprised at how sterile these goals were as she presented them on paper, and at how little her own personality and rhetorical sense came through in this reflection. Jessica seemed to have a good sense of audience in person – her performance on the group project was excellent and she showed a natural leadership skill during their in-class meetings, but on this project she seemed rather lost.

In contrast to Fred in Case Study 2, who did develop more specific goals in response to this assignment but who did not ultimately translate them into his e-portfolio development process, Jessica was ultimately able to realize a reasonably professional e-portfolio although not without some issues in that area. This was especially interesting because of the lack of goal development in this section, because as I mention earlier in the chapter, I went into this study assuming that developing strong goals was almost a necessity in order to create a strong professional presence. I wondered what had allowed her to do this? Especially in light of what I discovered when I evaluated Jessica's technological performance during the e-portfolio process.

Creating a Climate for Technological Change

In addition to Jessica's lack of rhetorical savvy that conflicted with her very savvy classroom presence, Jessica surprised me with her lack of technological performance. While Jessica reported a high level of computer proficiency in her technology survey answers, she seemed to struggle with the technological aspects of the assignment. In her reflective memo, she stated that she "was not familiar with creating a webpage on my own" and so used Google sites as an easy portfolio tool. She also stated that she did not have "weeks to learn HTML" and that the site was particularly user-friendly in that it used "cut and pasting to create the page." (reflection) In her technological survey, however, Jessica had indicated that she was very familiar and comfortable with technology, so I had grouped her (prematurely, it seemed) into the high-technology group. When I viewed her e-

portfolio, however, it seemed simplistically organized, with the standard organizing template provided by Google sites and little attempt at customizing for her own personal needs or tastes. So Jessica had a disconnect between her self-reported technical persona and her actual technical performance that never was resolved successfully in her e-portfolio performance. In Dawn's case in Case Study 5, we see that she later comes to realize that she lacks technical expertise and successfully resolves this issue, but in Jessica's case she continues to flounder a bit with the technology issue and it continues to plague her throughout the course in spite of her earlier reporting of her confidence with technology. I had to wonder if her reluctance to admit that she was unfamiliar with the technology played any role in the difficulties she faced in creating a coherent e-portfolio.

For example, in Google sites, the navigation bar is very simple but can be customized with flash or could be further extended with an extra HTML site that made navigation more attractive or user-friendly, but Jessica chose instead to simply use the navigation presented, leaving the traditional Google banner of gmail, calendar, etc. across the top of the page.

Figure 4: Jessica's Home Page

Jessica personified the issue of technological scaffolding as discussed in Selber's continuum – she enjoyed working with the technology that she knew how to use, and used that technology to push herself just a little further along the path to digital literacy although she was not yet quite fully literate with that technology and not quite up to the level that she indicated on her technological survey. She was motivated to learn, but not entirely sure of how to go about doing so. In stark contrast to her lack rhetorical proficiency, however, Jessica did manage to complete the assignment in a technologically competent manner by using her classmates' knowledge as a resource. Jessica highlighted an important feature brought up in Devoss' (2005) discussion of the role of teachers in directing the flow of technology information; rather than a teacher-taught or a self-led model, Jessica led her group in adopting more of a peer-mediated model that fits neither paradigm.

Difficulty Incorporating a Professional Identity

I was hoping that, in spite of my concerns about her audience analysis abilities, Jessica would be able to pull off a well-defined and professional portfolio. Her demeanor in class was particularly professional, and she was performing quite well in her group assignments, so I felt that she was perhaps progressing towards a more sophisticated understanding of the writing process.

When I looked at her portfolio, however, I was immediately struck by the fact that her first line read "this is my project for ENC3241-0M70" which illustrates that she was still thinking of this as a project for class, rather than as a means of reaching beyond the class and into her future profession. As discussed in the Freedman, Adams, and Smart (1994) article, Jessica clearly had not quite internalized the fact that the audience for this portfolio was not really her professor, but the employers who would eventually be viewing her e-portfolio. Like most of the students in this class, Jessica seemed to have difficulty envisioning her virtual ethos as someone outside of a school

setting. In addition, she had a countdown to the due date for the e-portfolio in large letters on the lower left hand corner, which was a very assignment-driven element.

Similarly, her biography section demonstrated the ethos of a student who was not yet comfortable with her professional status. She talked about her children and her family, and where she graduated from high school, but she indicated nothing in her biography that would show off her abilities as an employee. She included a picture of her family on her biography page, as well as logos from her favorite sports teams. In her interview, she indicated that she wasn't sure about indicating a preference for a particular team in case her interviewer was a fan of a separate team, but I noted to her that this was really the only place in her portfolio where she shows some aspect of her personality. In spite of her stated goal of showcasing her sense of humor, virtually the only place it shows up is in her biography, when she states "I also enjoy reading, writing, and the occasional Pittsburgh Steelers, Florida Gators, Penn State and UCF football games (like every weekend…'laughs.'": and then it is rather awkward. When Houser talks about the continuum of moving between and around identities, it is fairly clear that Jessica is still on the student side of the student/professional continuum.

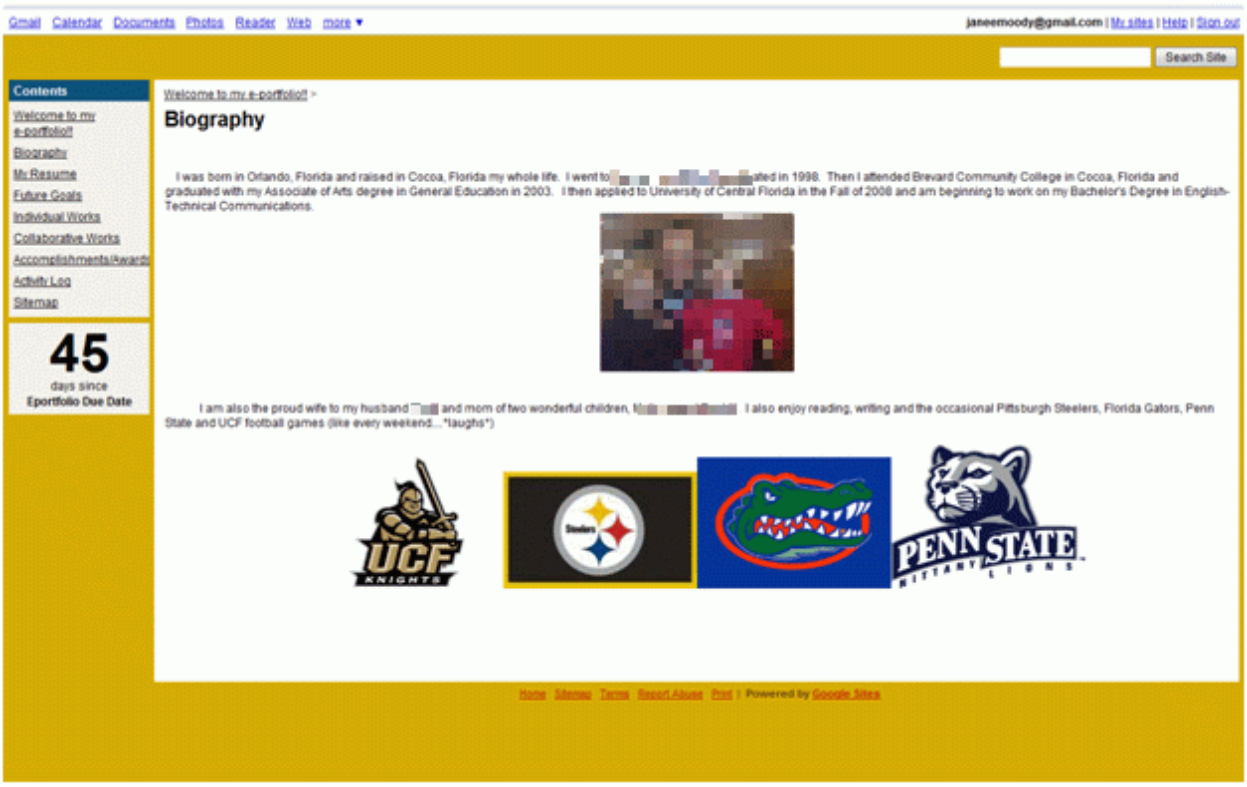


Figure 5: Jessica's Bio Page

Her resume and portfolio sections, however, are both businesslike and professional, and seem well-targeted to her audience. This indicates to me that Jessica is still viewing the portfolio genre as the older paper resume model, and has not truly transformed the genre in her mind into a digital arena. She is still using the paper model and conceptualizing how it can be based on what she has seen in other resumes, rather than extending what she has seen in other portfolios into something new.

In contrast to Edgar's e-portfolio in Case Study 4, which was also built in Google sites, Jessica's e-portfolio looks cluttered and student-oriented. She presented a very professional appearance in class and professed a desire to become a technical communicator when she

graduated, so I had very high expectations for her project based on her professional presentation and her responses to the technological survey. As I read her proposal and her reflection papers, however, I was struck by how little she seemed to have learned about creating a document that addressed a specific audience, and at how difficult a time she seemed to have with the particular technology required to create an e-portfolio. She also seemed stuck in her student persona for this particular assignment, although she did not seem that way in person.

What was it about the assignment or her own interpretation of it that created this situation? Perhaps it was the sheer scope of the assignment that drove her back into her student persona. She seemed able to "pretend" better as part of a group, and when she had a smaller assignment that addressed a more personally removed situation, but when the assignment addressed her own future, she faltered. Perhaps she just could not imagine herself in her future role, or perhaps the technological challenges of the assignment overwhelmed her and interfered with her ability to see herself clearly. Did she become so focused on overcoming the technological challenges that she lost sight of the rhetorical and identity elements inherent in the assignment? Or she may simply not have had as strong a rhetorical savvy to begin with and this may have created difficulty in translating the standard resume genre to a more complex online medium. In contrast to Jessica, Fred seemed slightly more rhetorically savvy, although his technological skills were less well-developed.

Case Study 2: Fred – technically Savvy, Adept Rhetorically, Not Developed Professionally

About Fred

Like Jessica in Case Study 1, Fred was a fairly high achieving student in my class; he received an A overall for the semester and an A- on his e-portfolio assignment because he fulfilled all of the requirements by including graphics, projects, and all the required major sections. He was

a full-time student; he was also one of the most technically-savvy students in my class, as reflected in his major (information technology/computer networking), his responses to the technological survey, and his performance on his other assignments. I had very high expectations for his e-portfolio assignment based on his level of technological savvy; I expected that he would put together something that was technologically exciting, but when I reviewed his e-portfolio, I was underwhelmed by both the rhetorical elements of his e-portfolio and the technological presentation, and I wondered where the gap had come from between his performance on that assignment and his other assignments in the course. Like Jessica, Fred's e-portfolio revealed a certain sense of rhetorical savvy, but his professional persona was not yet fully developed. He was able to successfully mimic certain aspects of professional presence, but not fully develop them in his e-portfolio, thus revealing that he had not fully incorporated them into his professional persona. Fred was a particularly tech-savvy student whose e-portfolio did not reflect this level of tech-savvy, and in fact whose e-portfolio lacked the sophistication of his other projects in the class, which surprised me. In addition, Fred seemed unable to translate his excellent performance on the E-Portfolio Proposal Assignment into performance on the e-portfolio itself, demonstrating that developing goals and translating them into action may be more difficult for some students. Fred also did not seem to engage with the assignment in the way that e-portfolio literature suggests is often inherent.

There were certainly good points about Fred's e-portfolio. He seemed to understand that his audience would want him to include samples of his work, and he included all of the major assignment requirements. One question I had to ask myself as I was doing this study was whether I had unduly high expectations for Fred's e-portfolio based on his performance in the class overall and I think that this is an area where I have to step back and assess my own performance as well as Fred's. If I looked at his e-portfolio out of context with his performance in the rest of the class, how

would I view his efforts? I went back and looked at the website that Fred helped create for his Final Project, which used Java for the menu, a very well-developed organizational scheme, with more dynamic graphics, and realized that there was a significant gap between his performance on this project and his e-portfolio. In the end, I would classify Fred's e-portfolio process as rhetorically fairly adept although not fully developed in this area and reasonably technology savvy, but his final e-portfolio performance was professionally not very well realized. He seemed to have difficulty making the transition between the well-thought-out assignments that he completed in the classroom and the more public "professional" presentation of the e-portfolio presence.

As I re-read this e-portfolio in light of what I know about technological literacy, I wondered what issues interfered with Fred's expression of his own technological prowess. In light of what transfer theorists including Freedman, Adams, and Smart, (1994), Wardle and Downs (2007), and earlier theorists such as Saloman and Perkins (1989) say about the way that students transfer their skills from particular assignments into specific rhetorical situations, was Fred's inability to express higher-level rhetorical skills on his e-portfolio an expression of his inability to envision himself in a professional position, or indicative that he just didn't value this particular assignment in the same way that he did the final project? Or, more likely was it just a gap between his ability to define rhetorical goals in the context of a classroom assignment and his ability to turn these goals into a concrete reality, a skill which can be difficult even for skilled rhetors?

Fred was a particularly interesting student because while he was quite technologically savvy, this failed to show up in his final e-portfolio product. I had to question what had happened between Fred's performance on his other assignments (in which he was quite technologically proficient) and this particular assignment. Was it something about the assignment itself that caused this gap, or was it that his lack of rhetorical savvy that had interfered with his performance? Of course it could have been that he was simply time-pressed or not motivated to work on this

assignment, but nothing in his interview suggested this; in fact quite the opposite. But his ability to create a website for the final project suggested to me that he should have been able to throw something together that was better than what he produced for this assignment. While he had fulfilled the requirement adequately, there was nothing "special" about his e-portfolio effort as I had expected there would be, given his high technological performance on the other assignments in the class.

Fred's case was particularly interesting because in the intersection of rhetoric, technology and identity, I thought he should have been a high performer in at least one of these areas. If we consider Selber's (2004) continuum, students require a certain level of technical proficiency to be considered creators of technology – that is to combine technology and rhetoric in deliberate ways to create new objects. Otherwise the student falls into the "user" continuum where they create technologically adept but not rhetorically-aimed projects. Fred was not an easy student to categorize along Selber's continuum, particularly for this assignment.

Developing a Sense of Professional Identity

If viewed in the context of this assignment alone, I would have placed him on Selber's continuum as strictly a user of technology. But viewing Fred more holistically over the course of the semester I could not categorize him thusly; creating a dilemma for me as a researcher. In his Proposal Assignment, Fred expressed a reasonably strong level of awareness of professional identity (at least compared to the rest of the class); however his awareness did not translate to the actual performance of his e-portfolio, which itself puzzled me. Unlike many of the other students in these case studies, Fred seemed to be able to make the connections between his audience for the e-portfolio and developing goals for his proposal, however this did not translate into his final e-portfolio product. In his proposal, Fred expressed specific goals such as demonstrating that he was

experienced by showing many of his completed projects, and yet while he listed them on his "Portfolio" page, he did not actually get around to uploading them before the end of the semester.

Figure 6: Fred's Project Page

I believe that the issue with this e-portfolio was more in the realm of a disconnect between the professional/personal continuum; that is, that Fred had difficulty stepping outside the boundaries of the academy and actually viewing himself as a professional rather than as a student, thus causing him to neglect and skimp on this assignment. He expressed the values of his profession in some of his assignments, saying for example in his Proposal that his profession valued experience and creativity as well as diversity, however these goals were difficult for him to turn into something concrete in his e-portfolio. Developing this type of concrete performance from goals is difficult for even seasoned professionals, so it is no wonder that novice writers have problems with it, and Fred

was no exception in this case. Because he struggled with creating his professional identity, Fred had difficulty with aspects of performance on this assignment.

In a related area, one of the issues that I was looking for in this study was the translation of the traditional genre of the resume to the online world – how well did the student transition from the standard resume genre to an online e-portfolio? This type of genre transformation would necessarily take a very confident and skilled professional. In his interview, Fred indicated that he felt his site "should be short to keep people who were only visiting briefly." I was struck by this statement, which seemed to indicate to me that Fred was thinking about the e-portfolio as a resume, and applying the same principles to it that one would to a single-page resume rather than expanding on the format and seeing this as an opportunity to give employers a more holistic and complete view of him that went beyond the sing-page resume format. This seems to be one of the issues with Fred's e-portfolio; that he was constrained by and unable to think beyond this traditional format, and therefore unable to really express his professional personality confidently in this new medium, which is not surprising, but which may have also had something to do with his e-portfolio performance.

Audience Aware but Not Fully Realized

In addition, Fred seemed to have a very hazy sense of the audience for his e-portfolio, as well as a poorly researched sense of his profession. In Module 5, Fred had researched other e-portfolios for computer science professionals, but in his interview, when I asked him what he had seen on their portfolios, he indicated that he wanted to be "businesslike and professional," but that he liked the ahughes.com example portfolio because it was so visually interesting. This made me wonder why he had not been more self-expressive given that his profession typically allows more self-development in e-portfolio design. So I went back to his Module 5 exercise for clues, and

discovered that he had not actually completed that assignment, although he indicated in his interview that he had looked at several people's sites online, but had not found any creative elements in their e-portfolios. By not developing a sense of what others in his profession were developing, Fred missed a chance to conceptualize what his audience might be looking for in a computer science major's e-portfolio, because looking at the creative sites in the interview examples seemed to help him see that he could have been more creative in his efforts. As I note in Chapter 5, along with Jared, Fred seemed to suffer from a lack of engagement in this assignment in spite of the claims in the literature that e-portfolio assignments promote a sense of engagement in students. In fact, Fred was more engaged in his Final Project assignment, which had less direct bearing on his future than this one, in spite of his indication during the interview that he realized that value to his future career of the e-portfolio.

Technically Savvy but Not Technically Performing

In class, Fred participated in the other technological assignments quite enthusiastically; often contributing computer help and support to other students, and was definitely an asset to his team as they completed a website for their final course project. In the online portion of this web-enhanced class, Fred helped several class members with their HTML skills, and demonstrated considerable technical expertise when it came to designing websites for his other projects. In his final project, he demonstrated the type of student-directed support that Devoss (2005) categorizes as important for developing a strong sense of technological proficiency. For his e-portfolio website, however, he chose to use free template software that didn't allow for much customization, and in his interview he reported that he would have preferred to "create one from scratch," but offered no explanation as to why he chose not to do so even when I asked him directly why he did not, answering simply that he did not have enough time. This assignment spanned the course of an

entire semester however, and incorporated several points where I provided feedback about the content and organization of the site, so I was not sure why Fred had not realized some of his technological goals for his e-portfolio. So time seemed to be a constraint for Fred, although he had difficulty defining exactly what his time issues were.

In addition, Fred seemed to struggle with incorporating simple web design skills in his e-portfolio that I saw him perform elsewhere in the classroom (for example in the final project), and this performance gap seems indicative of this lack of professional articulation, as well. In his proposal, Fred mentioned that one of his goals was to create a visually appealing professional identity. But one of the first things I noticed when I looked at Fred's e-portfolio draft was the lack of a graphic on the front page. I sent him feedback indicating that I felt that, for his particular profession, it was a good idea to include some sort of graphic and text combination as a demonstration that you could combine text and graphics in interesting ways. When I received the final e-portfolio product, below, I noticed that, rather than creating a personalized graphic, Fred had used one of the standard graphics from the free website template. His inability to visually express his professional identity was interesting to me as an expression that he may not have fully conceptualized what that identity was at this time in his professional career.

Figure 7: Fred's About Me Page

I felt that this rather simplistic graphic design element did not show off Fred's unique technological skills, but it was certainly professionally appropriate, if not particularly inspiring.

I was unable to determine through either examination of Fred's artifacts or exploration through the interview exactly what the difference was between his technological performance on the e-portfolio project and his performance in the rest of the course, but I did feel that there were some significant factors at work here. I want to be careful not to assume too much – perhaps the issue is simply that Fred did not engage with this particular assignment; although e-portfolios do tend to engage students because they provide a real-world task, Fred may be a student who does not respond to this particular type of motivation.

One issue that this dichotomy between Fred's projects raises is whether he would have benefitted in this particular project more from Selber's (2004) more teacher-directed approach to

developing technological literacy. While Devoss' (2005) student-centered method seemed to work well for him in the final project, perhaps the two projects required different approaches because of the difference (group versus individual) for this particular student. While Jessica formed her own support group for her e-portfolio, Fred seemed unable to tap into that group dynamic for this particular project; instead, seeing it as a strictly individual project.

As I mentioned earlier, Fred is an example of an extremely tech-savvy student who did not demonstrate his technical prowess, nor did he seem to have a particularly good grasp of this particular rhetorical situation. He also did not seem to engage with the assignment in the way that the literature suggests is often inherent in e-portfolio experiences. The dichotomy between my expectation and his performance was interesting to me, as it tapped many of the stereotypes that I have about my more technically savvy students. In addition to possible issues with his engagement with the assignment, Fred also did not seem to learn, either in my class or in the classes before mine, a way to incorporate this type of technology quickly and seamlessly, thus allowing him to concentrate on learning about rhetoric. If students who come in fairly technologically proficient are not able to "coast" in this one area, thus allowing them to concentrate on learning rhetorical skills, how can students manage who have to learn to incorporate both technology and rhetoric in order to create an e-portfolio?

Case Study 3: Jared – Technologically and Rhetorically Adept, Professionally Underperforming, Low Engagement

About Jared

Jared was very quiet in class, and when he did contribute it was usually only to ask for clarification on assignments. As another one of the fairly tech-savvy students I taught, Jared's e-portfolio showed promise that was not realized, and so I classified his e-portfolio process as both technologically, and professionally limited, although more rhetorically sound. Jared probably did

have the technical expertise to create a really vital online identity, but for various reasons he was unable t do so. Unlike either Jessica or Fred, Jared failed to produce much of an e-portfolio assignment at all, and I included him in this study mostly because his early promise sputtered out so thoroughly that I wondered what might have caused this to happen. It seemed that Jared might be an example of why students failed to engage with this assignment in spite of high technological skills and fair rhetorical prowess and I wanted to explore the situation behind Jared's e-portfolio assignment. The shell of his site was fairly technologically sophisticated, his proposal was well-thought-out and rhetorically sound, but the contents of his final site was not up to the standards of the course. It seems that Jared had a sense of what a professional ethos was, but that he lacked follow-through. While Jared seemed to have a well-developed sense of professional identity, it never transferred to the e-portfolio assignment, which made me wonder what obstacles prevented Jared from expressing his potential – were they technological, rhetorical, or genre-related? Jared presents an interesting case study because, while he seemed to be particularly audience aware and I knew that he was technologically savvy, of all of my students he performed the least well on the e-portfolio project.

Jared's proposal was one of the best-developed in the class, close to Edgar's in Case Study 4. He shows a similar attention to the rhetorical situation in his future profession when his opening states: "There are three main hurdles in getting hired as a new computer science graduate. The first is getting noticed by prospective employers. Second, is proving you are capable of contributing as soon as you are hired. Last but not least, is out-competing the competition for a quality job." This indicates to me that he has a good grasp of the employment situation. He is looking ahead to the hiring process, but even beyond the initial interview into the atmosphere of the workplace. He then goes on to talk about how he is going to develop a "positive electronic image" of himself. He wants

employers to view him as a technically-savvy employee, so he discusses including code and programs that he's developed, as well as projects that he has been involved in.

Jared also had a fairly well-researched idea of what a professional ethos should look like based on his Module 5 exercise. In this he found two individuals in his profession who had strong online personas. The person he chose to review was a PhD candidate at Stanford whose online portfolio includes several areas of interest to Jared.

> What was found is an overall package of professional information that leads a searcher to believe that Mr. Jackson is a good representative of a computer scientist, by having a well put together online persona. In total, his online persona offers three types of information about him; education, experience and interests. His education can be found on his personal website and resume. Not only can you find out his variety of experiences from his website and resume, you can also do an internet search and find information on some of the projects he has worked on. These projects listed independently from his own website and resume lend a sense of credibility to him. The personal information that is presented comes from his own personal website, live journal, blog and EBay.com were he sells fantasy cards. All in all, Mr. Jackson has a quality online persona that anyone would benefit from by emulating it.
>
> --Excerpt from Jared's Module 5 exercise.

From this excerpt, it seemed like Jared had a good sense of some professional standards for computer science major e-portfolios, such as reflecting a sense of credibility, demonstrating professional experience, and showing some sort of sense of the person.

Technologically Promising but Not Technologically Literate

Jared was technological skilled, and I noted that he was able to perform at a high level in setting up the initial shell of his e-portfolio. One of the issues I was interested in, however, was

more than just his technological skill level; it was whether he could translate this skill into a complete performance of the genre. Being technologically literate, according to Hawisher and Selfe (1997), means being literate in the conventions of the genre as well as knowing how to physically use a program. Jared was able to physically perform with the software, but unable to conceptualize how an e-portfolio should work using this software, so his complete vision of technological literacy was not high enough to use technology to translate a new genre into performance. He was not able to move nimbly between his existing skill level and the performance of a new task, and was unable to use the scaffolding of the assignment to help him do so as Edgar does with slightly better results in Case Study 4.

When I looked at Jared's e-portfolio online, initially I was impressed. For one thing, he had set up a private domain name for his site ("jaredxxx.net"). I thought this was a sign of how seriously he was taking the assignment, and eagerly clicked on the link. The front page was stylish although rather minimalist and it looked like the graphic, although a template, at least was professional and appropriate. He had appropriate section headings, such as "resume," "programs," "contact," "organizations." The main site heading gave some information about Jared – his major and where he went to school, and as such was rather student-centric, but it showed promise. Shortly after I first viewed the page, however, I went back to the site and saw that the first page showed "under construction." I suggested to Jared in an e-mail that having "under construction" on pages that weren't completed was fine, but that he neither wanted to have that on the front page, nor to keep it up there for too long. Jared never changed the page, however, and what was up there during the semester is still what is up on the site.

Figure 8: Jared's page showing "under construction"

When I clicked on his "Organizations" page, I got a rather strange collection of links, most of which were not active:

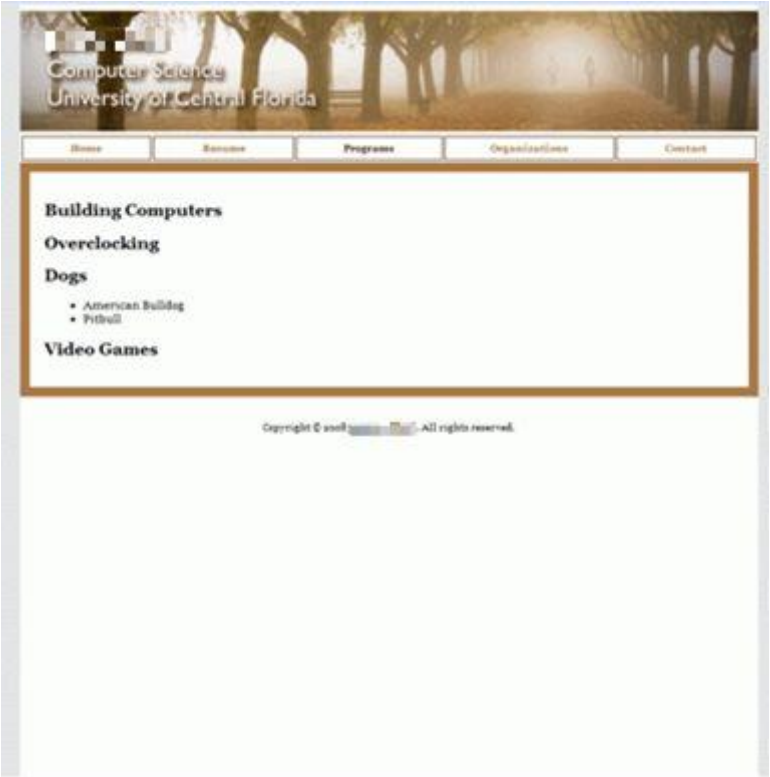


Figure 9: Jared's Project Page

The building computers, dogs, and video games links all seemed fairly personal. I was not sure what "overclocking" was, but looked it up on Wikipedia, to find that this refers to the practice of running a computer at a higher clock rate than it is designed to by the manufacturer, and that this practice is common among computer enthusiasts who want to enhance the performance of their machines. The most well-developed page on Jared's site was the resume page. On this page he did list his relevant links and experience, and gave a list of computer languages that he was qualified to work with.

As a site, Jared's e-portfolio was poorly developed, but since I first viewed it as a draft, I assumed that he would keep adding to it as the semester progressed. I viewed the site after the final exam, however, to find that it was still showing "under construction" signs on each page. I e-mailed Jared to set up the interview, and suggested that he might want to continue updating his site

in the meantime, as he was not going to receive a good grade on it because it was still substantially incomplete. Jared seemed to be overwhelmed by the sheer number of things he could put on the site. Perhaps, like Fred, he may have suffered a bit from the inability to visualize himself beyond the classroom and in the professional world. At the interview, Jared indicated that he was still confused at what information to put on the site, indicating to me that he had inadequate rhetorical skills to help him decide what to put on his site, and that this may have been the issue at work here. We discussed several items that he had completed in class that could be included in his e-portfolio, and Jared indicated that these were items he had not yet thought of even though this information was part of the original assignment. Jared seemed to have the most difficulty of all the students in this study visualizing his e-portfolio as a real entity that carried beyond the classroom – given a more structured assignment, or a genre that he was more familiar with (such as his overclocking website) he was able to perform with great ability, but when he had to translate the unfamiliar professional genre he was at a loss.

This type of one on one interaction seemed to be the key to Jared understanding the nature of projects that could be included in an e-portfolio, as I had covered these types of assignments in class already. Sitting down with me to go over his projects one by one seemed to be the only way Jared could process the types of information to include on an e-portfolio. Instead of risking putting up something that might be wrong, Jared chose instead to put nothing in his portfolio. I wish that I could say that Jared went on to develop a strong, well-defined e-portfolio, but it appears that work on his portfolio halted with the publishing of his resume online.

I looked to the literature for clues to Jared's inability to produce a vital online identity. In Devoss, et. al's (2004) student-centered model, Jared could have used the resources provided him and translated his existing knowledge into the new medium, but was unable to do so. He required a more teacher centered model as expressed in Selber (2004), but even with one-on-one counseling

available, Jared didn't really internalize the possibilities inherent in his e-portfolio. It may be a simple case of ennui, as well – perhaps Jared simply did not care about the e-portfolio experience. This is one of the risks of studying my own students, as Jared was unlikely to express this to me, either in writing or in the interview.

An Unfinished Life

When I examine how Jared identifies and expresses his virtual ethos, I find that his is poorly developed. While his goals and headings were professional, the fact that he left the portfolio unfinished meant more than just a poor grade on this assignment. I am assuming that Jared would finish the e-portfolio before sending a link to an employer, but for now, Jared's virtual ethos is unfinished and unformed; not available except as a glimpse of what could be a very professional e-portfolio. This indicates a serious issue with transfer between the assignment and the professional world, as Jared did an excellent job researching and identifying others in his profession.

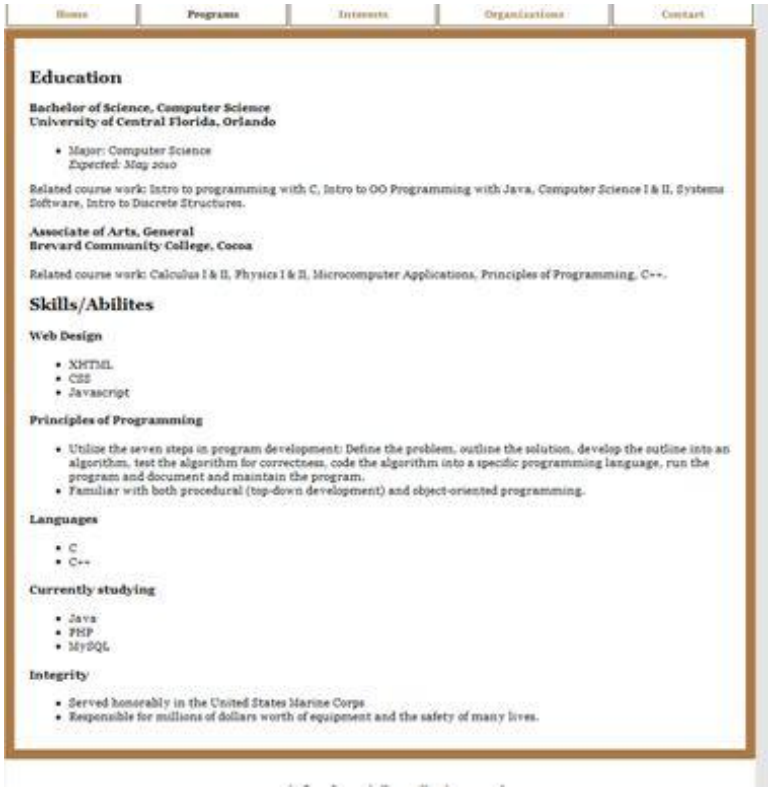
Jared writes in his module 5 exercise about one of the computer scientists he studied, noting that "Not only can you find out his variety of experiences from his website and resume, you can also do an internet search and find information on some of the projects he has worked on… All in all, Mr. Jackson has a quality online persona that anyone would benefit from [by] emulating [it]." He identifies specific items in this profile that make "Mr. Jackson's" e-portfolio both interesting and dynamic, such as a blog, sample projects, and independent sources of information. Does failing to follow through between the excellent research that Jared did on the Mr. Jackson profile and his own e-portfolio indicate, as Freedman, Adams, and Smart (1994) believe, that Jason had difficulty envisioning himself as a future Mr. Jackson? Could he not see himself in this type of professional role, and thus left his own e-portfolio blank and unfinished? In his interview, Jared's confusion and our long discussion of what professional projects to include on his e-portfolio might seem to

indicate so, as these were issues that probably should have been resolved during the course of the assignment through e-mail and research.

Standardized Genres

One of the things that I was looking for in this analysis was how well students translated the professional genre of the resume/cover letter into an online e-portfolio, because I reasoned that if they were confident enough to take chances and risks with the genre and develop it further than the standard, that they might be close to developing a real online professional persona. While a hesitant professional who is barely out of school is likely to take few chances with an online medium, a confident rhetor who understands the audience may be likely to translate the medium into a format that truly works better for an online audience. Then again, someone who understands the audience well may also recognize that an old-school hiring manager may want to see a traditional format online, but some changes are certainly necessary for an online format in order to preserve privacy and account for the differences in medium, such as removing physical addresses and phone numbers, etc.

The only well-realized page on Jared's e-portfolio was the resume page, and with this page Jared is beginning to show the first glimmers of any of my students in moving beyond simply porting a paper resume online. Jared is the only student in these case studies who does this, and this is important because one thing that I am looking for in this page is the development of the resume into a genre beyond the paper resume. This is important in considering how students develop their professional ethos and consider information, and it is interesting that only Jared, who underperforms in every other area, who considers the impact of his resume as an online document by removing personal information and reformatting for the web.



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Education

Bachelor of Science, Computer Science
University of Central Florida, Orlando

- Major: Computer Science
  Expected: May 2010

Related course work: Intro to programming with C, Intro to OO Programming with Java, Computer Science I & II, Systems Software, Intro to Discrete Structures.

Associate of Arts, General
Brevard Community College, Cocoa

Related course work: Calculus I & II, Physics I & II, Microcomputer Applications, Principles of Programming, C++.

Skills/Abilites

Web Design

- XHTML
- CSS
- Javascript

Principles of Programming

- Utilize the seven steps in program development: Define the problem, outline the solution, develop the outline into an algorithm, test the algorithm for correctness, code the algorithm into a specific programming language, run the program and document and maintain the program.
- Familiar with both procedural (top-down development) and object-oriented programming.

Languages

- C
- C++

Currently studying

- Java
- PHP
- MySQL

Integrity

- Served honorably in the United States Marine Corps
- Responsible for millions of dollars worth of equipment and the safety of many lives.

Figure 10: Jared's Resume

While he still does have all of the same areas as he did on his paper resume, the first thing that struck me was that he had removed the personal information such as address and phone number, which in my experience is quite rare for students. He has also set up headings and sections correctly for a web-based format, and paid some consideration to web design such as setting up bullets so that they display in a more web-friendly manner. While it is possible that he simply copied and pasted more skillfully than many students, the end result is more web-genre than paper-genre, and that shows some rhetorical attention to the difference between online and paper.

Jared did not include any projects or examples of his work, so the full impact of the genre wasn't realized, but it is important that he had begun the process of thinking beyond the paper format, although he had not fully realized it yet.

Case Study 4: Edgar – Technologically and Rhetorically Adept, Professionally Undeveloped, but Still Performing

About Edgar

In contrast to Jared's rudimentary e-portfolio, Edgar's e-portfolio in Case study 4 was fairly well-developed both rhetorically and technologically, and is probably the best example from the class in both areas. Edgar provides an example of a student who did both processes well, and gives us a chance to see a student who, even though he did not perform well in other areas of the class, managed to create a viable professional identity using good rhetorical as well as technological skills. The question is, how did Edgar do it while remaining at a distance from the rest of the class? If Miller posits that rhetoric is created in communities, and technological communities seem to help students, how did Edgar, with a rather passive presence in class, manage to create the most engaged e-portfolio?

Edgar's e-portfolio seemed to personify many of the issues I discuss in Chapter 2. His case was particularly interesting in that he created an e-portfolio that seemed audience-aware, while still being a novice writer. He was technologically literate, and so I expected him to create a technologically-driven e-portfolio, and in that he did not disappoint, but his goal-setting and rhetorical skills surprised me. Edgar did have some problems translating his professional identity online, and in moving between the classroom and the professional workplace, even though he had researched and learned a great deal about his profession.

Edgar was a fairly traditional student; although he had some experience with other colleges and educational settings, he has not yet worked in a professional position. Edgar was one of the quieter students in my class. He tended to sit towards the back of the room, and I had to coax him into participating in class discussions and projects. I didn't have very high expectations of his performance based on his class demeanor, yet when I got his first assignment (a memo detailing his

technological experience) I was pleasantly surprised. While there were certainly some problems with grammar and construction of the memo, he was insightful and reflective about his technological experience and how he had dealt with and learned technology, and I knew at that point that I really wanted to include him in this study, as there was such a contradiction between his passive class demeanor and his thoughtfulness in his assignments.

During the class, Edgar continued to surprise me with his level of technological sophistication, but still confound me with his class performance. While he would rarely volunteer information, when one of the other students was having problems with web development software, Edgar took it upon himself to work out a fix and post it on the class discussion board so that all of us could benefit. He received a B in the class, mostly because he didn't turn all his assignments in, but the assignments he did turn in were always well-crafted, if not elegantly written.

Edgar's mix of technological sophistication and reticence in the classroom were in direct contrast to Dawn in Case Study 5. Although he initially didn't know how to do everything to build his website, he was very good at working out how to achieve the results he wanted. He received an A on the e-portfolio assignment, mostly because of the design and reflection that he showed about the project. While there were still problems with his e-portfolio assignment, his proposal showed a certain rhetorical sophistication that most of the other students in the class lacked, and his e-portfolio effort reflected this preparation and level of technological skill. Of all the students in this course, Edgar seemed the most able to translate his technological expertise into rhetorical and professional performance, and I was interested in attempting to discover what it was that made this possible in spite of his apparent lack of engagement with the class itself.

Realizing Professional Goals

Flower and Hayes (1980) stress that one of the characteristics of novice writers was their difficulty in developing and realizing writing goals. Indeed, most of the students in the class seemed to struggle with developing the goals section of the e-portfolio proposal. Edgar, however, in spite of his probable status as a novice writer as characterized by his lack of attention to organization, grammar, and spelling, had a set of relatively well-developed goals. These goals, which showed both some research into the needs of his audience and reflection on how best to present his e-portfolio to meet those needs, were fairly clearly expressed in his proposal, and for the most part realized in his e-portfolio. While some of the language in his proposal was over-the-top, such as calling his teamwork "inimitable," he showed some sense of what employers in the technical writing field might want to know about a potential employee. In his proposal, Edgar's first goal was to "have an inimitable persona towards team work" which probably was a direct attempt to address an issue that I had stressed during classroom discussions – that technical writers almost always work in teams, and that this course was designed to help develop that skill. I was surprised at this, as I wasn't sure that he was listening or reading the assignments when I posted them. If we ignore the overblown language and sentence construction, Edgar's first goal statement was directly targeted at a specific audience, and particularly profession-appropriate. He could have gone farther, of course, such as giving specific examples from the class to stress his ability to work with teams, but for a first attempt at developing goals, it wasn't bad.

His second goal statement, to "always have a yearning to learn more about the work done," was a little less audience directed. In indicating his willingness to learn, he was falling back on a standard job goal, but later in his proposal he discusses how some of his experiences at Full Sail (another institution at which he had taken courses) influenced his willingness to try new things. This evidence of risk-taking in technological contexts was evident in Edgar's audience analysis.

Rather than imagining a standard hiring manager as his audience, Edgar told me in his interview that he tried to determine what a person hiring a contract employee might want to see, and decided that willingness to learn new skills and eagerness to "come up to speed" with new processes would be paramount.

Edgar's willingness to take chances and develop his identity according to professional standards comes out even more strongly in his third goal, which is more personal. He indicates that he wants to "use the skills I learn to eventually become self-employed." In my comments to his proposal, I noted that this reflects a difference between the portfolio and resume – while you might not want to put this type of goal on a resume, as a guiding principle for a portfolio it might be a fine goal. This does indicate that Edgar is a risk taker, but a thoughtful one. He wants to build his skills first, then strike out on his own, showing a surprising insight into how entrepreneurs typically get started.

Later in his proposal, Edgar discusses how he planned to lay out his portfolio, but he links the layout to specific purposes, rather than just saying that he would create a particular ethos through his portfolio. He talks about how much of his recording engineer "persona" he wants to reveal in a technical writing portfolio, which seems to reflect a fairly sophisticated rhetorical intent. He states that "I want to include the section for hobbies so that it's at least discussed to show that I'm electronically and musically inclined." He is also concerned with transitioning from a technological field to a business one as he indicates that he needs to mention his desire to learn more about business. This relative level of sophistication allowed Edgar to develop an e-portfolio that was both dynamic and rhetorically sound, and which expressed his professional persona well.

Edgar was at least beginning to mimic the professional language and manners of his professional practice, and that in turn allowed him to begin to develop a professional persona that demonstrated a level of adeptness that was above the scope of the rest of his classmates. By

beginning with a template of professional development, Edgar may have progressed to a level that allowed him to present something that his classmates could not – a not fully realized, but at least begun, professional persona that bridged the classroom and workplace. While not fully realized, Edgar did come closer than any of his classmates except Dawn, who had actual professional experience to help guide her, and this mimicked experience assisted him in overcoming some of the barriers to his lack of professional experience. He still had to develop a level of sophistication in his rhetorical expression and I would question whether Edgar really developed a good sense of rhetorical intent according to classical definitions, but I also begin to wonder how important this is in the modern world given the e-portfolio product Edgar produced and which will probably go on to serve him well throughout his professional life. I believe that students should develop the flexibility and the ability to think rhetorically even in this age of templates and remixing, but they often disagree with me.

Expressing Technological Sophistication

After the reflective nature of his proposal, I was expecting great things from Edgar's e-portfolio, and to some extent, he came through with a strong effort. He included all of the required elements for a portfolio, although he did not go much beyond the requirements of the assignment. His opening page text needed some work to bring it up to a professional standard, which did not surprise me given his status as a novice writer, but his "About Me" section did demonstrate focus on his professional goals and background. I responded in feedback that his text was mainly focused on school work, and that he needed to show a clearer link to how he was going to bring his school experience into the workplace, but he seemed to demonstrate a good rhetorical sense of aiming at a particular audience with this section.

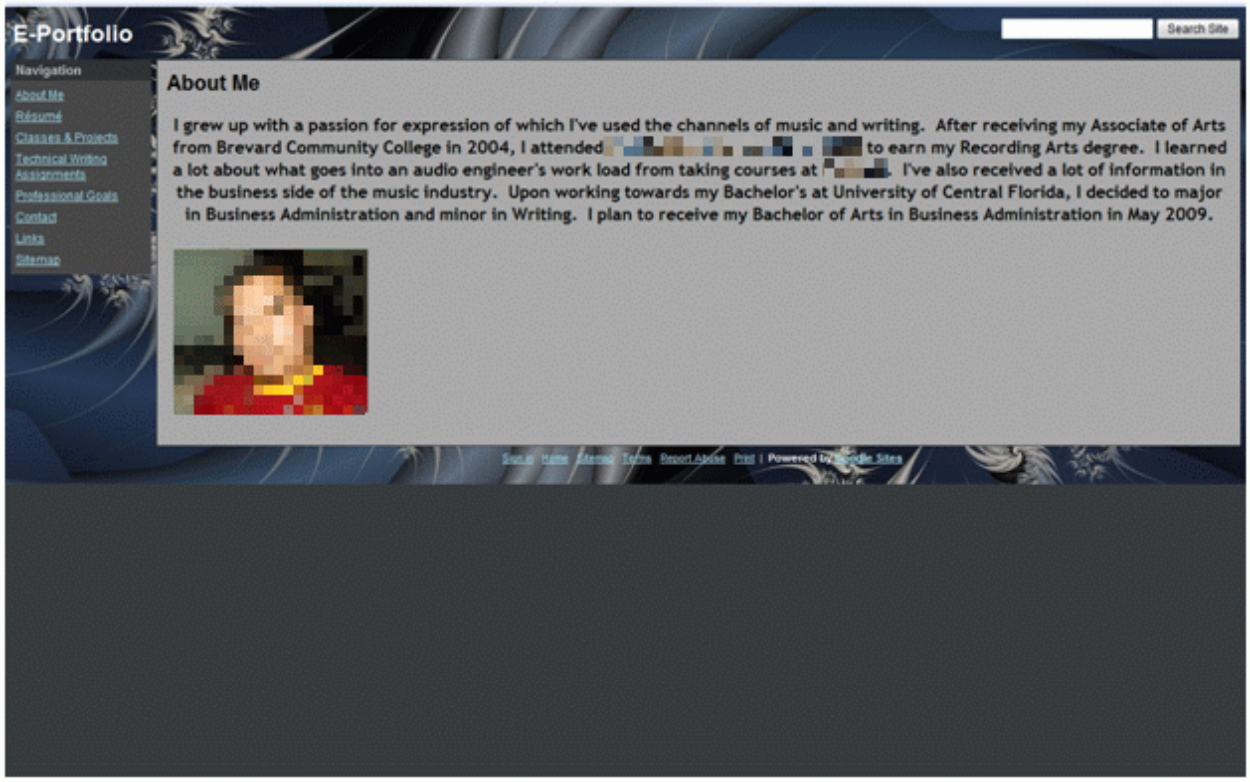

Figure 11: Edgar's About Me Page

Given Edgar's technological background, I expected a certain level of sophistication as he developed his graphics, and, for the most part, I was not disappointed. While there was nothing flashy or visually exciting about his portfolio, his graphics were appropriate and attractive. This was particularly noteworthy when I considered that he was creating his site in Google sites, which does not really encourage visual sophistication. Edgar mentioned in his interview that one of the more technologically frustrating aspects of his portfolio development was working with Google sites, particularly getting the border to stay in place and arranging the site in a pleasing configuration rather than in the standard file directory listing that is the Google sites' template. Edgar seemed to exemplify DeVoss, et. al.'s (2004) student-centered example, in contrast to Jared and Fred in particular; he developed and worked on the site mostly by working out the issues himself, with very little input from me or the other students in the class, and produced good results

using this model. There were a couple of areas where this model did not serve him quite as well, however. This seemed to exemplify an intersection between the technical and rhetorical; problems both with developing a rhetorical expression and the technical development of this rhetoric. He did fairly well as long as he had a good model to follow, but as I ask the question earlier; how much rhetoric do students need to know when there are so many templates available? The answer seems to be that the templates will not always serve them in the absence of the rhetorical skill to apply and develop them. Edgar's weakness in this area seemed to exemplify the importance of developing the rhetorical skill to know when to use templates and when to develop a new paradigm.

Edgar's technological sophistication showed quite well in his resume presentation, but his rhetorical skill didn't quite follow in this particular section. His resume was well-formatted but standard, and his objective statement was quite generic, which surprised me after the relatively sophisticated goal statements that he had included in his proposal. He also included his address and phone number on his site, which indicated that he hadn't really been listening when we discussed privacy issues in class, as I recommended that students not include their physical contact information on the public website, but rather put an e-mail contact. This indicated to me that Edgar wasn't really translating the genre of the resume particularly well to the new media format (or perhaps that he was extremely comfortable with putting his personal information online). The fact that the rest of the resume didn't change from the paper version he had created in class seemed to suggest to me that he was stuck in the old media format for this particular genre, which seemed a bit odd to me as he was able to successfully work with the new media elements so well in the music and other, less-codified sections. Perhaps the fact that he was so entrenched in the existing genre of the resume gave him particular problems.

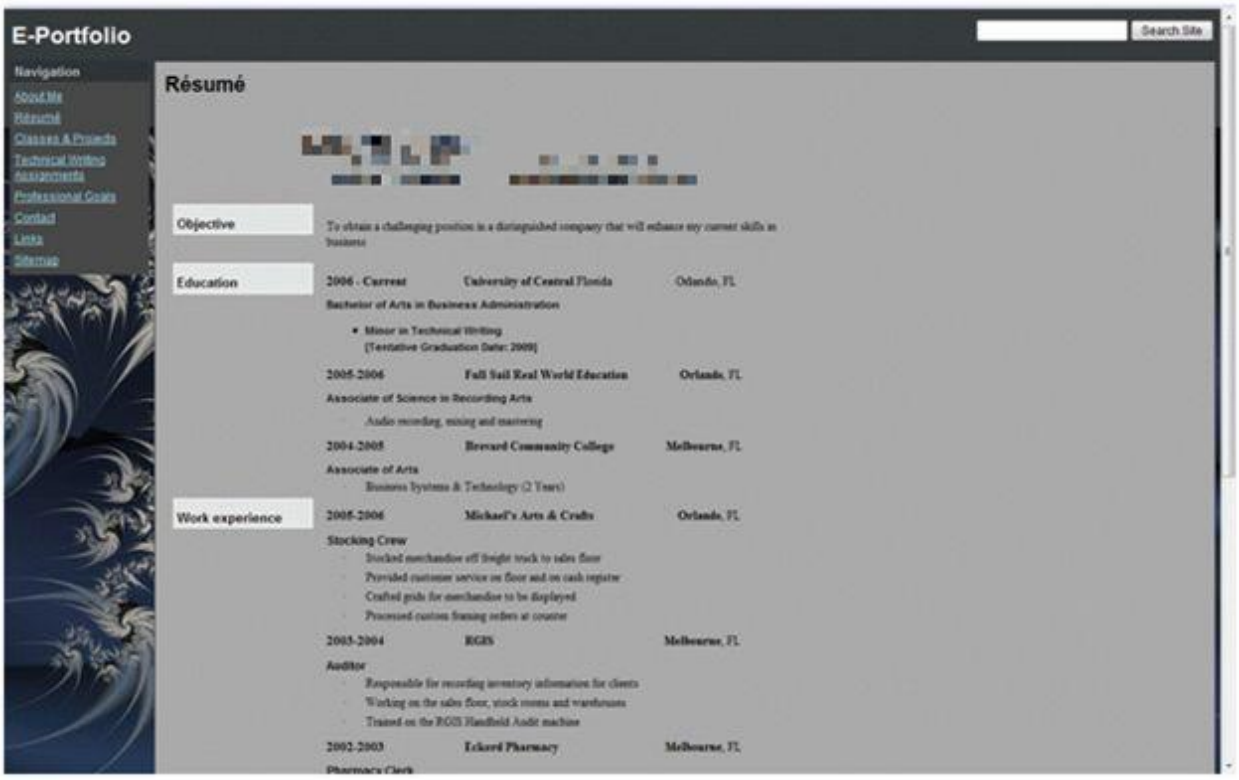

Figure 12: Edgar's Resume

Of particular interest to me when I looked at this portfolio was how Edgar was going to handle his projects page. Given the discussion about professional presentation and eagerness to demonstrate his willingness to learn that he presented in his proposal, I expected Edgar's projects page to really shine. I was disappointed, however, as his projects page was merely a listing of specific projects that he had worked on, with brief descriptions of what each file contained. Headings such as "Powerpoint Presentation Regarding my Major" didn't really tell me much about what was in the file, but when I opened the documents, I discovered that the Powerpoint presentation was actually a fairly sophisticated research assignment into what being a technical writer really involved. This level of research demonstrated that Edgar did have a good grasp of his audience, and that he'd done his homework to find out what they required from an employee. So in this case Edgar had underrepresented his document.

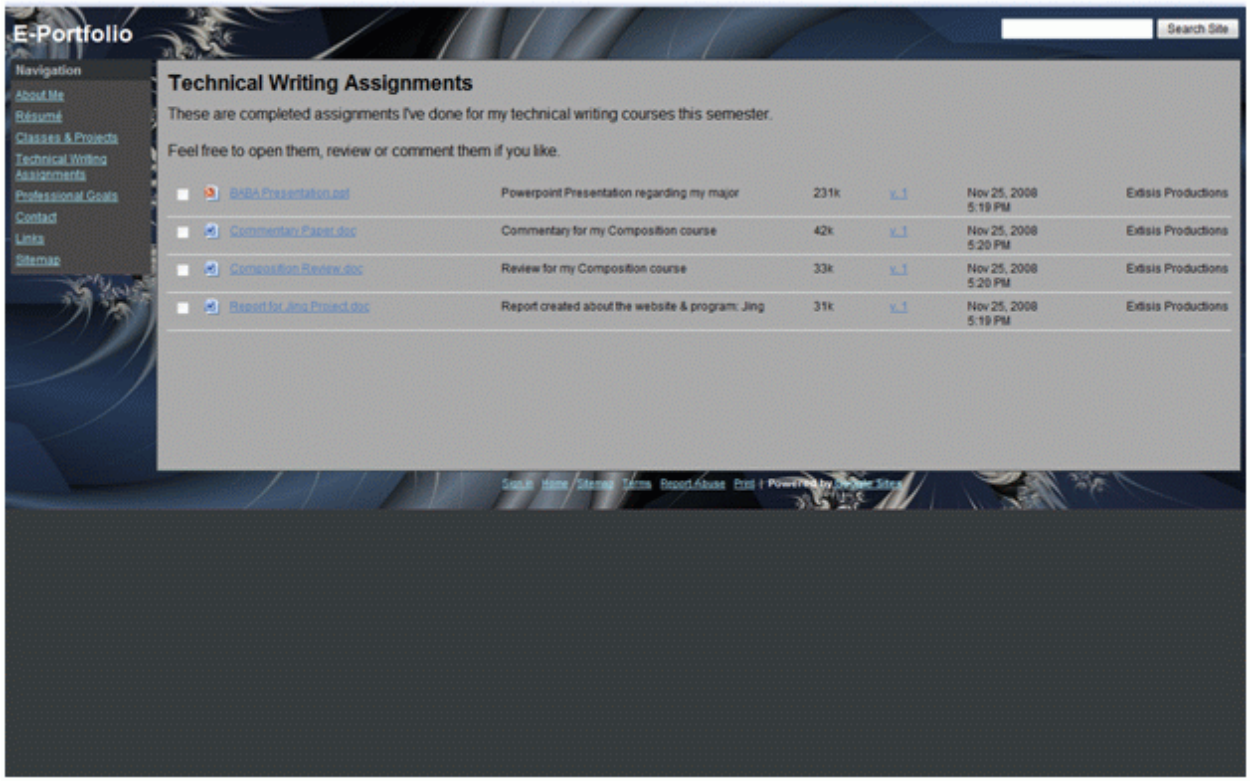

Figure 13: Edgar's Projects Page

So why didn't Edgar contextualize any of these projects? I had mentioned in class that it was a good idea to provide context to these types of links, such as a statement about why you included a particular project, but I believe that there may have been a gap between my explanation and the class' comprehension of contextualization, as so many students missed this point. Perhaps I should have provided more concrete examples of this type of context, although I then risked students mimicking my examples too closely and missing the reflective nature of contextualization. It may also have been an issue with the medium – Google Sites (which is the software Edgar used to create his e-portfolio) does not easily allow for this type of context, so Edgar would have had to develop a work-around.

Creating a Professional Persona

Edgar, of all the students I interviewed for this research, was the one I felt most clearly "wore his suit to class." He already had done some work to research his profession, and had a pretty good idea of what would be required as he moved into the business world. When we looked at the other portfolios, Edgar seemed to value organization and clear labeling over creativity, as he rated the plainest portfolio (Winslow's) the highest. He felt that the weakest portfolio was the AHughes one – that it was "crazy, blog driven, as an employer I wouldn't think that was professional."

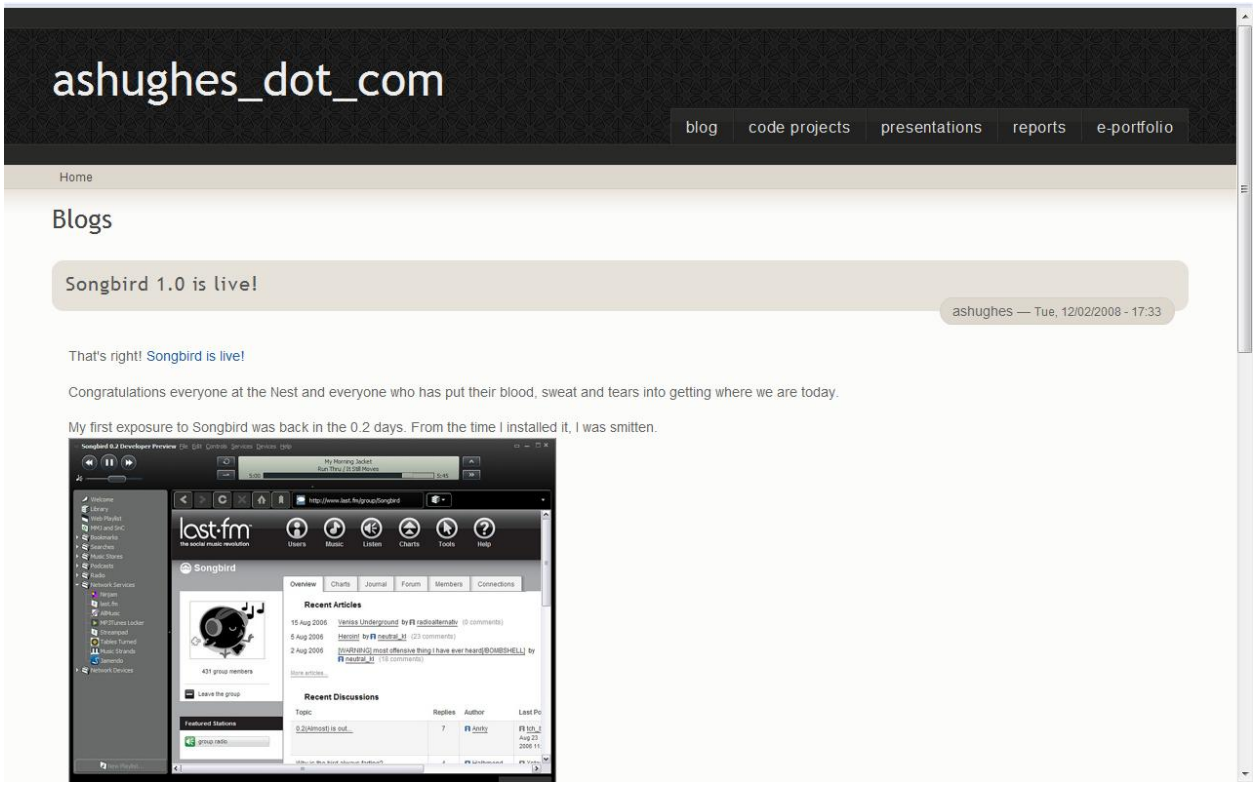

Figure 14: Example of ashughes.com's blog

We discussed how some employers, particularly in creative fields, might view the blog-driven site more favorably. Edgar seemed surprisingly well versed in his analysis of his future corporate culture, but seemed surprised when I mentioned how details such as blogs could be used

to indicate that a job candidate was on the cutting edge of technology. Keeping current with technology was one of Edgar's goals, and he didn't seem to grasp that blogging might be an interesting way of demonstrating that. He seemed to have rather rigid ideas about what was appropriate in business, and this discussion gave us a good opportunity to explore employer perceptions. Much like Dawn would in Case Study 5, Edgar seemed a bit unsure of how to translate his face-to-face persona to a virtual site.

The next student, Dawn, presents the opposite side of the spectrum, in that she was a more expert writer, rhetor, and worker, who was not at all technologically savvy, and her ability to put together an excellent e-portfolio shows another perspective on these issues.

Case Study 5: Dawn – Technologically Unsophisticated, Rhetorically Average, but Professionally Aware

About Dawn

Dawn is an adult returning student in her mid-thirties, who was, at least according to her comments in class, a high achiever. She did very well on all her assignments, although the lowest grade that she received in the class was on the e-portfolio assignment. Dawn's case study is interesting because, in spite of the factors that should have added up to success in the e-portfolio assignment such as her rhetorical savvy and self-reported technical prowess; she still struggled with the process and had difficulty completing this particular task. During my research process, I identified three areas that seemed particularly problematic for Dawn as she worked with this assignment, including difficulties envisioning her portfolio which point to rhetorical difficulties specific to the online situation, difficulty identifying and implementing a coherent professional identity, and issues with technologically realizing her vision. These factors emerged throughout the class, and looking at Dawn's struggle may help us identify and assist students who we might otherwise assume will have an easy time with this type of assignment.

Dawn's first brush with technological issues surfaced in an e-mail to me outside of class. In this e-mail, she noted her hesitancy in creating a website, including a difficulty in getting started with the process and deciding what to include. This surprised me as in a self-reported survey she had indicated that she felt "very comfortable" working with technology. In addition, she had been an active participant in class, much of which involved working online; and seemed comfortable with the rest of the assignments involving technology (this was, after all a technical communication course), but the e-portfolio assignment in particular seemed to be overwhelming to her because of the technological requirements involved in creating a website.

In class, she also expressed hesitation and uncertainty with both the technical requirements and the professional issues surrounding the portfolio process in a class discussion, asking what kind of website she would be required to produce, and how substantial that site had to be. While many of the students seemed concerned about how to create the website itself, she seemed to be focused on the contents of the e-portfolio, and her questions centered around what to include and what would be appropriate for her profession. She seemed to have a good grasp of the rhetorical situation behind her profession, discussing committees that she had served on and presentations she had created for her job, but was more hesitant about the purpose for an e-portfolio. She asked questions about creating an e-portfolio, about who would view the portfolio and typical uses of e-portfolios in the business world.

Another interesting aspect of Dawn's e-portfolio process was the dichotomy between how professionally and easily she presented her other assignments, and her hesitancy about the professional aspects of creating the e-portfolio assignment. She reported that she was adept at creating technical presentations for work, showing a movie about a presentation she had created for a library project for a work project, but the specifics of creating an e-portfolio instead of simply a general website seemed to worry her.

One issue that I felt cropped up with Dawn that was important to her e-portfolio development was that in contrast to Jessica, who also overestimated her technological ability but who never realized that she was perhaps not as technologically astute as she thought, Dawn quickly realized that the demands of the e-portfolio were beyond her and she expressed her worries both to me and to the class. The way that Dawn handled her technological worries, was also unique in that she created a situation for herself in which she tapped other students' expertise to help guide her through her process. Of all the students in the course Dawn was the most likely to seek out other students for technological help, and most clearly demonstrated the need for outside support in her technological efforts. She created a support system for herself within the class that seemed to contribute to her eventual success at completing the assignment and which may provide a framework for understanding how students successfully negotiate such an assignment by moving between Devoss, et. al. (2004) and Selber's (2004) continuums of student and teacher support to create hybrid systems of support. It seems that the major barrier to Dawn creating a solid and well-realized virtual ethos was her lack of technological skill, but for the most part she surmounted this by creating a support network for herself.

Rhetorically for other assignments, Dawn seemed to manage quite well, but in creating a website such as this e-portfolio she had some difficulty. Dawn illustrates what can happen, however, when students work diligently at translating their talents towards a new medium. Even if they don't always hit the mark, such students can make great progress when given adequate support and guidance. When students have real-world experience, in addition, the task of creating an e-portfolio would seem to be easier, and in some ways it is. However, as I found with Dawn, she still had difficulty translating her experience into an e-portfolio assignment that incorporated elements that she knew would be important in her profession, and in moving beyond the classroom.

Envisioning Professional Identity

Dawn was already fairly well-established in her profession, but she still had some difficulty conceptualizing her professional identity and translating it to an e-portfolio. One of the notable aspects of Dawn's proposal effort was the lack of development in her professional goals statement, in spite of her obvious skill as a writer in other assignments. According to the assignment, the student was to "Come up with a short proposal (1-2 pages) that defines a particular set of at least three goals for your professional identity." Questions that I used to prompt them to develop these goals included:

- What do you want employers to think about you?
- What impression do you want to project for your future career, and how can your e-portfolio fit into this impression?
- What do you need to learn and demonstrate that you've learned in order to become a member of your profession?

In addition, in class we discussed developing professional goals, using examples from other portfolios that students had gathered in a previous course module, discussions about the objective statements in resumes covered in the Kristin Woolever "Writing for the Technical Professions" text (2007) and comparisons between job ads and resume specifics.

In response to this assignment, Dawn produced goals that basically just restated the questions that I asked as prompts, totally missing the idea of developing goals specific to her field. Unlike Edgar in Case Study 4 whose goals were more specific to his own career development, Dawn's goals were more general. However she seemed to weave into her text some basic goals for e-portfolios, such as ease of navigation and availability of digital and multimedia artifacts. I commented to her in my feedback that her goals were difficult to parse out from her text, and that

what she had bulleted as goals were in fact my prompting questions. She commented during her interview that she had great difficulty developing these goals in spite of our class discussions, but when we talked one on one in our interview and I gave her some profession-specific feedback such as asking in several different ways what she wanted to project as a teacher (which was her intended profession), she seemed to get a better understanding of how to develop these goals. In spite of her lack of ability to set goals in the proposal exercise, Dawn was able to translate these vague goals into something more concrete in the actual e-portfolio. This was probably an example both of DeVoss' (2005) teacher-oriented learning process (as opposed to someone who learned more on her own) and a more discourse-oriented development process where she required more input to develop her goals but ultimately was able to successfully complete this process with help.

Expressing Her Professional Identity

Dawn's e-portfolio effort was a solid B effort, although not particularly visually exciting. She included all the major requirements of the assignment, including a resume, a brief biography, and a few artifacts that showed a professional presence. I was a bit surprised that, as a potential teacher, she only included letters of reference and a couple of pictures of projects she had worked on as artifacts. When we looked at other portfolios during our face to face interview, she indicated that she felt she had a limited idea of what to include on her e-portfolio for artifacts, and that viewing the examples provided helped her form a sense of items that could be included. Her portfolio, however, did not include very many graphic elements, and was not particularly visually exciting. Given a presentation that she had done in class, which included both dynamic video and emphasized her skills at creating graphic presentations for one of her classes, I was a bit surprised that her portfolio wasn't more dynamic. When I asked her during the interview about creating graphics for the website, she indicated that she had thought of including several graphics, but

"wasn't sure what was appropriate for an e-portfolio." One thing that she did do in her e-portfolio that I thought was impressive was to include a mission statement – a quote about teaching that summed up her teaching philosophy (although I should note that she failed to give the quote adequate attribution).

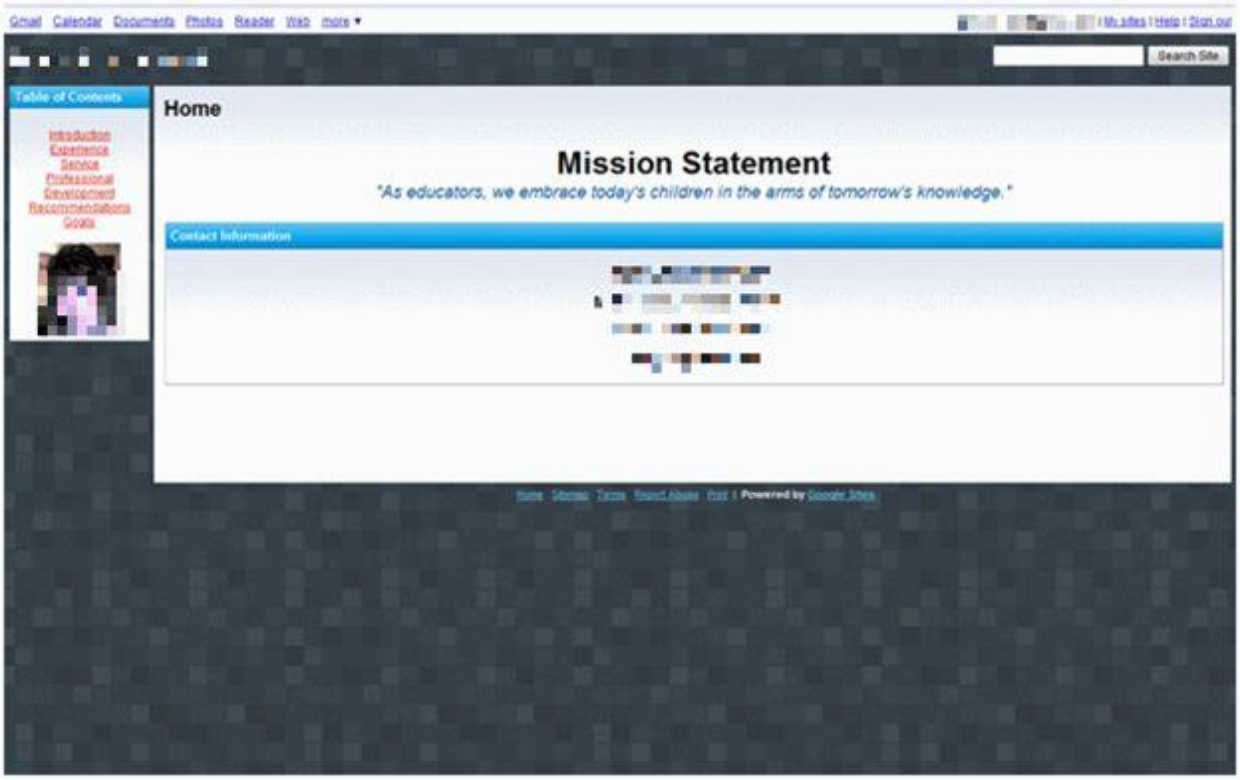

Figure 15: Dawn's Home Page

In her introduction, Dawn highlighted some of her experiences; her text was typically quite information-rich and well-developed, which did indicate that she adequately incorporated some of her unstated goals about reaching her audience in her e-portfolio.

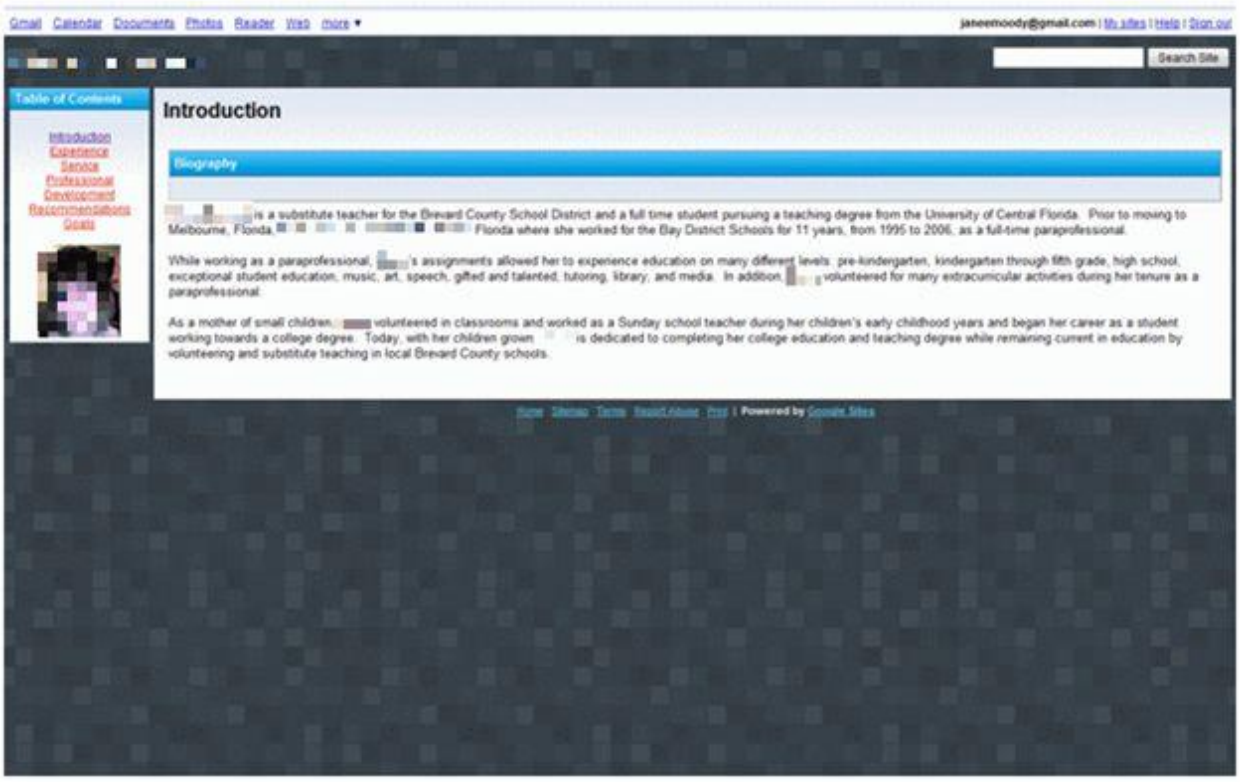

Figure 16: Dawn's Introductory Page

Envisioning the Audience

During our interview, Dawn and I discussed the difficulty inherent in imagining an audience for e-portfolios. Dawn said that when she was trying to decide who would be the audience for her portfolio, she imagined future employers. She noted that she has been in education for a long time and has sat in on the interview process, so she knows "what they are looking for and how they present themselves." She felt that she did a lot of visuals on hers because the ones who got the job were the ones who could show visually what they had done. So that's what she did for hers. Dawn's e-portfolio effort, however, was not particularly visually rich, given her self-reported emphasis on visual presentation.

Dawn noted that she found it helpful in class "when we started and you talked about audience and slant, that was helpful – it's like marketing and advertising – I was going for the education market, and wouldn't do that type of portfolio for a business environment. "

So in her e-portfolio efforts, unlike most of the students Dawn was working with a real rather than an envisioned audience, which was fairly unusual. This type of experience, however, was not enough to help her incorporate the specific types of graphics and visuals that her particular audience would have appreciated, nor to include all of the information that they might have needed in her e-portfolio, nor to help her articulate the specific goals for her e-portfolio development that would have encouraged her to include these elements. For the most part, however, Dawn performed much better than most students on this assignment, so her real rather than imagined audience and her rhetorical skill were certainly assets which helped offset any areas where she might be lacking in technological skill.

Acknowledging Technological Limitations

On the technological survey that I did in class, Dawn indicated that she had extensive experience creating multimedia presentations. She often asked other students for assistance, but she also often offered assistance if she knew how to do something. She created a strong support system for herself within the class structure that both she and I agreed might have been more difficult to create in a fully online class. Even with the limited face time that this mediated class provided, Dawn made the most of her face to face interaction with me and with her classmates, and carried that interaction over into her online presence in the class. This was very interesting to me as I considered the difference between the models in DeVoss, et.al. (2004) and Selber (2004), as Dawn seemed to drift between these models, getting help from each area equally well.

That she was not quite as technologically savvy as she indicated in her technological survey was apparent as I viewed her e-portfolio, but Dawn made up for that with self-confidence about her limited technological skills, no doubt bolstered by her ability to seek help and create support systems where she needed them. As a model of a help-seeking, technologically-literate student, Dawn was ideal, as she created her own support system and sought help as needed. Her final e-portfolio was adequate, and reflected her actual technological abilities – she did not attempt to create something beyond her abilities and fail, as did Jared, nor did she not push herself enough, as did Edgar, but rather she seemed to create an e-portfolio that she could manage for the future and that reflected her personality and her actual technological abilities.

Reflecting on Creating a Coherent Online Self

Dawn clearly saw the value in presenting a coherent online presence. When we viewed the sample portfolios and talked about creating presence online, Dawn said that the second portfolio had a really nice "guy next door persona," but that she didn't get a good sense of his professional goals, "is he going to be a carpenter?" I was interested in her comment that she didn't get a sense of him "owning" any of the material that he put online. This sense of ownership seemed to be quite important to her as we talked, and she commented more than once about which portfolios we reviewed seemed to be the most personal.

During our interview, Dawn indicated that she valued humor in presentation. She is funny in person, and in her interview she talked about incorporating humor into her e-portfolio by noting: "that's who I am." While she didn't use explicit humor in her e-portfolio presentation, she did include a picture of herself that was whimsical rather than strictly professional. In all of her writing she attempted to convey a sense of professionalism, but stated that she valued portfolios that were

friendly, but still professional; she felt that being friendly shows potential employers that she is not "afraid to learn new things."

She made a funny comment about her portfolio: "all my links worked, but whoopededoo – I don't think I wrote enough. I just didn't know how chatty to be, and now I'm thinking about my artifacts, and I didn't write enough about them." Contextualizing artifacts is an important portfolio skill, and while Dawn recognized the importance of doing so, she failed to create any sense of persona when she did the actual portfolio creation. Dawn included screen shots of these projects without discussion of what she had done and the relevance that these projects showed to her abilities as a future professional educator.

Some of the issues that came up in Dawn's e-portfolio assignment included difficulty conceptualizing the audience for this rhetorical situation, difficulty determining what profession-specific information to include, and technological difficulty realizing the product that she envisioned. It seems from this e-portfolio example that some students typically have so many problems with the technological aspects of e-portfolios that it is difficult to get them to focus on the rhetorical situation even when they have the capability to do so. Dawn's final comment was that she realized now that this site was just a shell, but that now she can fill in that shell with real things. "Now it's cool to say I have an e-portfolio." She realized the importance of the product, but still had some difficulty envisioning how she was going to use the e-portfolio until we sat down and talked one-on-one about possible applications for her project.

How Dawn's Case Illustrates Specific Issues

Dawn's case was particularly interesting because in her e-portfolio many of the issues I was investigating in the other cases came together and were successfully dealt with in spite of their presence. In spite of a recognized lack of technological prowess, for example, Dawn was able to pull together a support system to overcome this issue and produce a fairly technologically sophisticated

e-portfolio presentation that included projects and was more technologically advanced than Jessica's. In spite of her difficulty in expressing her rhetorical goals in her assignment, in her one-on-one meeting with me Dawn was able to better develop these goals into a more coherent rhetorical intent that allowed her to create a better e-portfolio that was less template-driven than Edgar's. In spite of her busy schedule that perennially affects students and affects motivation Dawn managed to complete the project successfully unlike Jared, and Fred, and certainly the only place Dawn was unable to shine was in her translation of her professional persona, perhaps because she had some difficulty envisioning the final product.

In the next chapter, I discuss some of the issues raised by the individual cases and their implications for technical communicators, as well as some modifications to my original assignment that came about as a result of these case studies, with an eye towards both improving students' and instructors' experiences with technology, rhetoric, and professionalization through the use of e-portfolios. That is an ambitious order, however, and I will settle for raising technical communication instructors' awareness of some of these perennial problems and how e-portfolios can be used to highlight these issues.

CHAPTER 5 – REFLECTIONS ON THE RESEARCH

As technical communication teachers deal with issues of teaching rhetoric, integrating new technologies in their classrooms, and assisting students as they transition between the academy and the professional arena, they often search for tools to help make these perennially difficult tasks easier. In addition, instructors search for ways of designing technical communication assignments which allow them to bridge this gap in a way that is both relevant and interesting to them. Many educators are turning to e-portfolios as a way to bridge this school-to-work gap. E-portfolios are viewed as a way to incorporate valuable learning skills with motivation to complete the types of tasks that technical communication instructors are always attempting to incorporate into the classroom, such as audience awareness, technical prowess, and skill with various rhetorical situations. In addition, many technical communication teachers see e-portfolios as a valuable way to help students develop a more robust professional identity that can help them span the gap between the academy and the professional workplace. This gap has proven to be difficult for students to bridge using traditional technical communication assignments such as proposals and memos (Freedman and Adams, 1996; Dias, et. al., 1999, Freedman, Adams, and Smart, 1994).

Questions remain, however, about just how well e-portfolios perform in this capacity, as well as how well students are able to surmount the ongoing issues I identified in Chapter 2 with technology, rhetoric, and professional identity. How well can they adapt to the rapidly changing technologies that they are required to use in order to develop these e-portfolios? How do they incorporate rhetorical situations into their e-portfolio processes, and how well do these e-portfolios really help them bridge the gap between the academy and the workplace? In addition, as we move these e-portfolios online, how does this complex online situation complicate this already difficult situation? The case studies that I analyzed in Chapter 4 were an attempt to view some of these

issues through the lens of five students' experiences, and to ask how their situations were typical for students in technical communication courses in general. By looking at these case studies, I attempt to come to some conclusions about how these students struggled (and often triumphed) given their various backgrounds in technology, their existing skill at using rhetoric, and their existing experience in the workplace. In addition, I came away from this study with some insight into issues that were not revealed in the literature. Issues dealing with motivation and help-seeking behavior, and barriers dealing with gaps in how students perceived their own skills versus their actual skill levels, affected students performance on this assignment in some interesting ways.

Finally, I had to deal with the effect that studying my own students had on these issues, and what I learned about research in general from following this process. I went into this study design with some preconceived notions about what studying my own students would involve, and for the most part, my expectations about the difficulties inherent in this process were not fulfilled. I worried that my students would not be forthcoming about weaknesses in my assignment they fear offending me, and I believe that they did feel comfortable bringing up their fears concerns about the assignment as well as their difficulties, particularly with the technological aspects, as these are concrete and easy to talk about. It was more difficult to get them to talk about the challenges difficulties they had understanding the rhetorical situation, simply because these more abstract concepts are more difficult to discuss, but I attempted to design questions and analyze them with an eye towards teasing out these more difficult concepts. However some unexpected difficulties with the process involving privacy and access did come up, such as students' e-portfolios expiring by the time this dissertation is published, as well as one of the example e-portfolio site domains. In addition, students may have had reservations that did not come up in the study or that I was unable

to identify, and these are important issues to deal with as technically-savvy, digitally connected instructors who may at times be called on to pursue these types of research studies.

In the discussion below I identify issues raised in the analysis of the e-portfolios. I identified the same three areas of technological, rhetorical, and identity issues that the literature suggested would be problematic as students worked with e-portfolios to develop a professional identity. In addition, two of the case studies suggested that students may have additional problems with motivation and self-identification of skill levels that may need additional intervention from either peers or instructors to help bridge the gap between a successful and not successful e-portfolio experience. The discussion on the following pages is of course not an exhaustive discussion of the subject, and in some cases raises more questions than it answers. In Chapter 3 I envisioned myself asking questions such as:

- Were students who had a high level of technological savvy actually more technologically literate, or just more technologically adept?
- As well, I wondered whether they were actually more rhetorically savvy as well? Would they consider a professional audience as they created their e-portfolio products, or would they, as Freedman, Adams, and Smart (1994) found in their study, continue to create as if the academic audience was the only consideration?
- Did they have a well-defined concept of audience despite my attempts to teach the concept in class, considering that Shriver defines this as a very difficult-to-teach concept?
- Would their portfolios look like resumes simply moved online, or would the genre have begun to evolve beyond that into something more than a textual genre?
- And finally, as I talked to the students, would I find these issues were as problematic as I thought?

I suspected that as I interviewed students these questions would undergo significant revision. I found the analysis of the cases to be illuminating to my own assignment, and in a separate section, I deal with the changes that came about in this assignment as a result of this study, and the implications that this has for my future teaching strategies. In addition, I discuss what I learned from conducting a study on my own students, in the hopes that some of what I learned from this type of research can benefit others conducting case studies of this sort.

Issues Impacting Students' Success

Certainly the students in this course had varied levels of success with this assignment, but some issues seemed common in the group. Most of the students struggled with technology to some extent; some more than others. Dawn, for example, had more of an issue with technology than Edgar, but less than Jessica. All of the students had some difficulty developing the goals necessary for me to determine whether they had targeted a specific audience, but in the end several of the students seemed to successfully do so on their final projects. Most of the students in this study had some difficulty with creating a cohesive and coherent online identity, although Edgar probably managed better than any of them to do this. Jared probably struggled with this concept the most, although it was difficult to tell whether this was ennui or simply difficulty defining his professional persona online.

None of the students reflected on a single, defining element that gave them difficulty; for most it was a combination of elements that contributed to the success and failure of their projects. This is important, because it reveals the complexity of the issues, as well as the enormity of attempting to address all of them at once in order to help students succeed in the technical communication classroom. If we shore students up in one area, they will not necessarily receive support in another. Nor are these issues linear in structure; providing a certain amount of help in

one area does not guarantee that the other areas will be impacted equally. Only by being responsive to students' needs in all of the areas necessary to create a viable e-portfolio product can we even begin to address these issues.

What I Learned About Students Working with Technology

Going into this study, I expected to discover that students had difficulty with the technology required to create the assignment, including both the web site creation and the software necessary to move their files online and the ability to understand the process of storing and working with files online. In all of the cases that I analyzed, technological barriers were one of the most frequently discussed and obvious barriers to a successful e-portfolio experience. Almost all of the students identified at least one technological issue, even students who were well-versed in technology. As Selfe (1999) discusses, computers evoke change, and with change comes difficult coping, for both students and faculty. Instructors also have difficulty with new technologies, and we are supposed to be more experienced than the students that we teach; that is one of our assumptions about being an instructor, after all. Conversely, in this area there is often a common expectation that our students will exceed us – after all the "net generation" grew up with computers, don't they? As Dziuban and Lorenzo (2006) suggest, students' prowess with the so-called "business" technologies comes nowhere near their facility with "fun technology." So as I discussed their experiences with this business-oriented technology, I was not surprised to find that my students did have more difficulty learning to use the technology of e-portfolios than they did their cell phones or iPads. The motivation was different; their required skill set was different; indeed the entire technological situation was different for creating their e-portfolio situation. As Case Study #5 (Dawn) showed, however, even a student who was not particularly technologically savvy could overcome these barriers if a proper support system was created. What surprised me about Dawn's situation, however, was the type of support system she created; instead of coming to me for support she

created a face-to face support system within the classroom. While this had varying levels of success in creating a viable e-portfolio, it is worth noting because it allowed her to tap into the collective expertise of several technologically advanced students. While she may not have gotten all the help she needed, she attempted to obtain help in a way that felt comfortable to her.

In contrast to Dawn, Jared, in Case Study #3, who was certainly technologically advanced enough to complete his e-portfolio on his own, failed to do so either by the end of the course or afterwards. While Jared was technologically capable, he indicated in his interviews that he did not devote sufficient time to the assignment, demonstrating a common problem that students often face – a lack of motivation when faced with a business-oriented technology. I suspect that if the technology were related to something more "fun" oriented, Jared would have had less difficulty finding time to devote to it. Indeed, Jared devoted sufficient time to developing his "overclocking" website, a much more complex and technologically difficult topic. In this case, the lure of having an e-portfolio was not sufficient to overcome the "school" bias that Jared showed towards his work. An e-portfolio was related to schoolwork, and therefore Jared was not motivated to work on it.

Unlike Jared, Edgar did devote enough time to his e-portfolio, and developed a technologically sophisticated website to showcase his skills. He also served as a technological resource for the rest of the class (including Dawn) and demonstrated an example of a student who was exceptionally technologically proficient as well as rhetorically savvy. Edgar was a good example of a student who did not need a lot of support when developing his e-portfolio; instead he provided support for others, and identifying this early in the course benefitted the other students as they developed their own e-portfolios. If I had not known that Edgar was technologically savvy I might not have tapped into his potential as a technological leader, and several other students might not have benefitted from his expertise. Using the technology survey allowed me to identify

students like Edgar who possessed this technological knowledge and harness his skill-set to assist other students, but not all students were as good as Edgar at sharing this knowledge even if they possessed it. His rhetorical skill also made him a good tutor, and the combination of these skills was important in his overall success in the assignment.

Surprisingly, the most technologically skilled students were not the most successful in this case study. It took a combination of technological skill, motivation, and rhetorical skill in order to succeed in the technological part of the e-portfolio assignment. Students who performed well on this assignment used a variety of coping mechanisms to obtain technological help. They asked other students for support, for example. They asked me for clarification on the assignment, but seemed to turn more towards their peers for help with the development of the e-portfolio, as Dawn shows in her development of a support group to work on technological issues (see Case Study #5) and Edgar demonstrates with his availability to help other students develop their own e-portfolios. These two students not only tapped into a type of technological resource that was unusual for the sample population but used these resources in unusual ways to create a better e-portfolio experience.

The successful students in these case studies used the online experience as an "evocative experience" as Selfe and Hawisher (1997) suggest can be the cause, to meet their needs in spite of both rhetorical and technical challenges. So what made these students able to scale Selber's (2004) continuum from user to creator (for the most part) in spite of these challenges? In many cases it may have been the motivation of the e-portfolio assignment itself – the real-world usefulness that students were able to connect with. In others, that students were able to form support systems that allowed them to overcome their difficulties.

It seems obvious that identifying these students early in the e-portfolio process could benefit many students in the course, as long as they receive some sort of "compensation" for using their knowledge to benefit the class. I currently give students who provide significant technological support to the class extra credit on their e-portfolio assignment as a motivating factor, but students may value other incentives, such as help developing a portion of the e-portfolio that they find difficult, such as their projects page, or assistance in another area, above this type of credit. The benefit to students, of course, from this type of peer interaction is well-documented. It can be difficult to achieve in an online course, but I have found that setting up a technical support area that is manned by fellow students can be quite effective, as long as the parameters for participation and reward are well-defined at the beginning of the assignment.

In addition, several students who I thought should have easily been able to develop their e-portfolios were unable to do so, either due to a lack of motivation or a lack of technological skill. The lack of motivation was the most surprising to me, as I expected students to be highly motivated by the real world connection of the e-portfolio assignment. Indeed in subsequent courses students have reported that this is their favorite assignment, because they feel that it gives them something concrete to show an employer about their work in the academy.

Technology seems to be a defining issue for this type of e-portfolio, and certainly Selfe (1999) discusses the importance of finding a suitable platform for any classroom endeavor before beginning a technological project in a course. In a project that involves as much self-direction as an e-portfolio, the selection of platform and the identification of technological skills and barriers seems to be critical to student success. Certainly it is one of the most important factors. But just because it is the most obvious factor does not mean that it is the most important factor.

What I Learned About Students Analyzing Audience Online

Audience analysis was more difficult for both my students and me to talk about in the case studies, both because they often did not understand the concept as well as they did the technological barriers, and because the rhetorical issues were not as easy to define for either of us. Many students had difficulty visualizing audience, as I expected and as the literature suggested would be so. In Chapter 3, I discuss the concept of how I imagined students would have difficulty interacting with an imagined professional audience and forming a virtual ethos online as suggested by Shriver (1997) and Turkle (1995). I tried to define ways to authentically explore these concepts in my study, but when I turned to the actual case studies and my interviews with students, virtual ethos turned out to be an even slipperier more opaque concept to define and explain than I envisioned when I designed the study. My original question of how to teach students virtual ethos became refined by my case study into exploring ways in which students' online experiences remediated their audience analysis process. Does the mere fact that they had less face to face contact in this particular course have anything to do with their performance on this assignment, for example? We did not have as much time in class to concentrate on doing the type of audience analysis exercise that they might have benefitted from, so I moved some of this type of activity online, for example having them do much of their research on their audience in the Webcourse space, which may have made some difference in their performance on the assignment as opposed to discussing and interacting with it in the space of a classroom.

As Shriver (1997) points out, imaginary audience construction is the most difficult of the types of audience analysis to work with, and the nature of this assignment; with the assignment defined online, the audience hosted online, and the students often removed from contact with both me and with their audience, seemed to complicate the rhetorical situation beyond what is usually the case. This was especially evinced by their difficulties discussing audience construction and

analysis in the interviews. While not unexpected, this seems to reinforce the idea that this segment of the assignment needs to be even more carefully constructed than in a face-to-face class in order for the students to be successful; something that is also reinforced in the literature about online learning.

The five students in these case studies all seemed to have similar issues with interacting with an imagined audience, and coped with these issues with varying levels of success. Edgar, for example, seemed more able to conceptualize what his audience needed to see in his e-portfolio, even though he wasn't always able to convey this in writing. The gap between what he conveyed in his proposal (his goals for his e-portfolio were fairly well-developed, if overblown), and his e-portfolio performance, were quite narrow. Jessica, on the other hand, demonstrated a wider gap between her ability to conceptualize her audience by using developed goals in her proposal and demonstrated performance on her e-portfolio. While admittedly, according to Shriver this demonstration of the ability to conceptualize audience is a difficult one for technical communicators to perform, it does demonstrate that neither student did much concrete research into the needs of their audience and did not show much ability to construct a coherent audience using the tools available to them in the assignment. This may also, of course, be a symptom of the issue that these were mostly novice writers, as defined by Flower and Hayes, and may accordingly have had some difficulty articulating their goals in writing, but less difficulty creating the actual assignment product.

I began to wonder as I interviewed the students if not having audience construct exercises done in class as we did for some other assignments might have affected the outcome of the assignment? In later classes I have done this and I think that I have had more success. For the fully online courses I also created more involved and detailed research assignments, which seem to have

resulted in better performance on their e-portfolio projects, so I think that my answer to this question would be that yes, spending less face to face time on discourse in audience analysis did affect their performance, and some type of directed activity must be substituted in order to make up this gap.

In the later assignments I have incorporated a standard, (but clear and directed) technical communication assignment written specifically to address issues I encountered in this study where we research online personas in students' professions, and I have them write reports on their professions. This does seem to help them visualize their audience by researching and writing about these audience, linking them more directly to their actual audience as suggested might be beneficial by researchers such as Shriver (1997). These students did not have the benefit of this exercise and struggled with this concept. Jessica, in particular, as we see in Case Study #1, would have benefitted from more face to face instruction on audience construction. Edgar, on the other hand, in Case Study #4, had a narrower gap between his rhetorical goals and his ability to produce a product that met those goals. He was more able to model his own presentation on an external model and produce according to a template that he developed without much external support. He developed his goals (to look like a professional in his field who was ready to work), found his own models of professionals, and developed a product that fit those goals fairly well. Edgar was able to use the online instruction and tools to develop a fairly sophisticated rhetorical presentation, as was Dawn, who gives us another example of a student who was able to tap her rhetorical ability fairly easily. While both Dawn and Edgar were fairly unskilled in their rhetorical ability, they were able to use the assignment tools fairly successfully in creating their e-portfolio presentations to fit a particular professional audience. While they could have improved this presentation in several areas, for

students working on their own in an online environment, they did show a fairly high level of self-direction and motivation.

Edgar's case was interesting in another way, and it's important to mention while we are talking about his audience development. Edgar's grasp of rhetoric was fairly rudimentary, and yet his e-portfolio was still fairly well-developed in that area. It seemed well-targeted towards a specific professional audience. Even though he did not do some of the things that we as writing instructors think are important to developing a strong rhetorical presentation, such as writing well-developed goals and creating a good proposal that showed that he had a good grasp of the rhetorical situation, his e-portfolio showed that he understood these principles better than some students who had done a better job with the rhetorical elements of the assignment. Certainly the online situation changes the way we actually work with rhetoric, as explored in work such as Alexander's (2007) studies of students' websites and digital productions. Many online developers may not work in a traditional rhetorical paradigm of intent, navigation/representation, but still produce content that is well-developed and aimed rhetorically, and Edgar's case is a good example of this. Does the ready availability of templates that are already developed around sound rhetorical principles, perhaps, give developers a way around some of the traditional rhetorical steps? I think that this is an area that strongly suggests further exploration, because the work in this study does not adequately answer this question.

Another resource that I think would have benefitted some of the lower-performing students in the course, such as Jared and Jessica, was direction towards robust support services, such as the university writing center and strong encouragement to use them. In order for this type of resource to be fully effective in this area, however, resource agents (writing center consultants) would have to receive training in rhetorical and professional implications of e-portfolio technology. They

would then be of great benefit to students attempting to target their writing and e-portfolio presentation towards a particular audience.

What I Learned About Students Developing a Professional Online Persona

One thing that the students that I interviewed in these case studies (and in later classes) described as an important part of this assignment was the development of a professional persona. Every student I talked to described developing a heightened sense of themselves as a "professional" in the sense that they now had at least some awareness that they could, and would, be moving out into the world and needed to think about how they presented themselves. If raising awareness of this issue were my only goal, I would be completely happy. But the students still varied in how well the product of this awareness (their e-portfolio) performed when compared to the professional models, and so there is still an important gap between how they perceive themselves as professionals, and how they present themselves to the world as professionals. They can see the need to present themselves, but still cannot always craft a product that presents themselves as they want to be seen, and this gap often frustrates them. The gap identified by Freedman, Adams, and Smart (1994) is still functioning in the 21st century online classroom. One interesting issue that I identified, however, is that students often don't perceive this gap as keenly as their instructors do.

Many of the students went into this project thinking that their e-portfolios were a good reflection of their online persona, and until they saw the example e-portfolios, did not realize that they could have done "more" to project a professional identity. They may not have even followed the assignment guidelines, but still felt that they had performed well on the assignment. Why this disconnect between what they felt that had projected as a professional identity and performance? Sometimes this seemed to reflect the area in which rhetorical ability and technological ability intersected, and often in the professional persona it was really in the intersection of the rhetoric

and technology that the failure of the students to meet both their own goals and my standards came out. In the interviews and in my evaluation of the e-portfolios, one trend emerged over and over – that there was a gap between what students wanted to achieve in their professional presentation and what they were capable of developing, both rhetorically and technologically. This gap resulted in a less-well-developed professional persona that might have been resolved through shoring up the other two areas. If students had been able to perform technologically, for example, they might have been able to develop a technological presentation that let them more easily realize what they wanted to create professionally, but because they spent so much time wrestling with the technology, they were unable to concentrate on developing their professional presence. But this does not fully explain the issues students had with crafting their professional identity.

The literature dealing with students' transitioning from the classroom to the workplace brings up issues students have with conceptualizing life outside the classroom. Freedman, Adam's, and Smart's multiple studies (1994 and 1996), as well as Schneider and Andre's (2005) case study which surveyed how students feel their writing preparation prepares them for writing outside the academy demonstrates how different this type of writing is, and how difficult students find the transition between the academic and professional genres. My own students did not voice this difficult overtly, but I observed it in the surprise they expressed at seeing the professionalism in the example e-portfolios. Dawn, in particular, seemed to struggle with the thought of what she could include in her e-portfolio, and how to convey her sense of professionalism in writing. As I indicated in her case study, she was able to express this one on one with me in our interview, but had difficulty thinking of items to include as well as how to present her e-portfolio in a professional manner. She was already in the professional world, so her difficulties seemed to center more on the online issues of her persona, rather than simply the fact that she was transitioning between the

academy and the professional world. This indicates perhaps, that the online world may throw up some additional barriers to students already struggling with transitioning between school and work, and may complicate things for novice writers attempting to learn how to communicate in a new professional genre.

Students who were higher-performing on the e-portfolio assignment, such as Edgar, seemed to realize that they could have reached even higher into a level of professional expertise, suggesting that with a level of technological and rhetorical sophistication comes professional development as well. The lower-performing students also seemed to have the least realization that they could have created a more professional presentation. In particular, the level of professionalism seems tied strongly to the level of rhetorical sophistication, as being audience-aware suggests that you realize what type of professional presentation will best reach your particular audience. As Hawisher and Selfe suggest, just empowering either students or instructors with technology does not automatically confer the level of technological and rhetorical sophistication necessary to create a rhetorically and professionally sound presentation. In addition, there are not yet a sufficient number of professional models available to guide students in developing these professional presentations by mimicry, which is a standard form of web development.

My question for further development in this area might be, then, how we can develop the professional models students need while still encouraging them to develop their own professional "voice" within their communities of practice? Since the genre of professional e-portfolio and professional online presence is developing so rapidly, how are students to find their own professional style and develop a set of best practices for their particular field? Perhaps by helping students develop the research and evaluation skills that they need in order to sort through the diverse technological, rhetorical, and identity information that is available to them, we can help

them to become nimble and responsive researchers. Which brings me to the next section – how the field of Texts and Technology can be informed by and has informed this study.

What I Learned About Texts and Technology

In Texts and Technology, our focus was usually on the intersection of various texts with the technologies that remediated or shaped them (Bolter, 2001), or the histories that had formed them. As we develop our new media canon, some of the focus is necessarily on technology, but hopefully always on the ways in which human interaction with technology shapes society, rather than some sort of sterile interaction with the media. My focus is always on the human interaction with the technology, rather than the technology itself. So in my studies I found myself drawn more towards the humanistic theorists such as McLuhan and Manovich, and the social connections formed by the texts and technologies we interact with. Humanities has always been about social connections – the writers of the texts, the readers and interpreters of the texts are never absent; they hover over our shoulders and remind us that without the social connections, the product is meaningless. E-portfolios could be a perfect example of Barthe's (1978) writerly texts, created by the user, as a social connection site, and with the emphasis on sites such as Linked-in and other social networking spaces, the push does seem to be in that direction. As advocates for Texts and Technology, part of our mission is to study ways to best move our students towards this rhetorical literacy, and to create a desire in them to examine and work with technology as reflective practitioners rather than blind adopters.

How we orient ourselves when there is no center and no linearity of prose is one of the fundamental issues in defining texts and technology. We have no central thought, no one method of inquiry that we can apply to different texts – instead, we have a web of connections that we have to trace and orient. I think that this is one of the primary issues students (and we) face as they

attempt to create online artifacts. But tracing webs can be interesting, and as I examine e-portfolios, I can see how interacting in a specific context, Texts and Technology research may provide some insight into how our students are working with these links and nodes of connections as we go forward. Professional and personal portfolios are created with the intent of linking, of creating connections, and of creating multiple modalities of discourse. A portfolio typically combines many very different methods of exploration and interpretation, and this orientation towards a professional purpose may help us engage our students with a different view of technology; one that doesn't orient them strictly towards play. I may have to change my own interest in studying these hierarchical connections in ways I hadn't anticipated in order to respond to changing technology, and therein lies an opportunity for my own personal growth.

As I discuss in Chapter 1, another area where I felt I had difficulty in this study was in examining the visual interplay between texts and graphics and in developing an engagement with the text in this area. We deal with so many visual elements online, such as movies, audio, and images. We encourage students to include these elements in their e-portfolios, but then how do we evaluate them? These elements are so integrated (think of the ads that you see as a sidebar on many webpages) that they become invisible. Freedman (2003), in "Teaching Visual Culture," calls for a critical study of the aesthetics of the visual as a way of making meaning – images are so visceral and powerful that they call for contextualization and situation. As a situating theory for this aspect of the field, Mirzoeff's (2008) discussion of visual culture frames the visual within the culture it is produced and read by, and examines this context as a rich source of critical theory. In further examining the applications for incorporating visuals, Kress & Van Leeuwen (2006) formulated a grammar for visual designs which seems tied to the signification aspects of semiotic theorists such as Saussere, Barthes, and Levi-Strauss. Using visual theory integrated with textual

theory helps me to engage these multi-layered compositions in my assessment. Visual representation (icons) are an important part of understanding technology, and so I would call for integration of these visual theorists as well as we move forward in assessing visual culture online. I think that this is one of the primary issues I had in both assessing students and in designing this study, and integrating these theories from Texts and Technologies is an important way for us to progress in this area.

Finally, it is important to discuss the constraining nature of technology on both my students and on myself. I learned important lessons about working with technologies through my students as a result of this study, and theories from Texts and Technologies inform us about some of the "whys" of these issues of what we can label as technological constraint. It all does come down to what we can and cannot do with the technology at the end. It won't do exactly what we envision, but why not? Both Moulthrop (1991) and Lessig (2006) deal with this issue of technological constraint, although they have slightly different perspectives on what causes it. Moulthrop discusses how technology democratizes text, but raises issues with how it puts social control in the hands of a very few technologically savvy producers. This democratization is not total since while most of us can technically produce on the internet, what we produce is often constrained by the technology we use. Systems are often not written to facilitate the type of communication and community we seem to want, and when we complain to the producers, we get at best an indifferent shrug. With e-portfolio production the idea is to use an easily accessible assignment and software to move production back into the hands of the many, in order to facilitate this democratization of learning and to empower students to learn more about both their own professional development and the technology.

Studying My Own Students

One thing that surprised me about this process of studying my own students was that they were so forthcoming with me about weaknesses in my own assignment. I heard about places where my assignment was confusing or could be improved, and this allowed me to create an assignment that was stronger and which worked better for later classes. While students may have been unlikely to discuss specifics about their own e-portfolio weaknesses for fear of coming off as less knowledgeable (I would like to repeat this study with someone else's students, but currently no one else is using e-portfolios in their courses at this university), they were quite up front about problems in general with the course and the assignment. This part of my research fit well with my own philosophies of reflexive practice, as I attempt to implement Shön's (1987) "reflection in action" in my own courses. The ideas of reflection and circular implementation defined by these educational theories became more important as I began to examine my own teaching practice through this research effort.

I examined how my teaching practices have changed as a result of this study, and for the most part, my development as an instructor has been similar to Selber's (2004) continuum, with some leaps caused by technological innovation throw in. I have become more innovative as a result of this study, and less afraid to try new technologies in class. If something does not work, I know that I can always find another technology that will work reasonably well in its place. I am also less hesitant to discuss what is working and what is not with my students. I realize after talking to the students in my case studies that they will often tell me the truth, and that I can use this information to develop my assignments more fully. I never view an assignment as "complete," now, either – they are all in development, and as new technologies and information comes along, I am in the process of revising, remixing, revamping. This study, therefore, has made my teaching life more difficult in myriad ways, but much more interesting in others.

One thing that I discovered after completing this research process is that I became more critical of my own assumptions about my students as a result of assessing their e-portfolios for this research study. I realized that perhaps I should have examined some of my preconceived notions about how the students should have performed based on what I remembered about their performance on other assignments, in conversations with them, or on their performance in class discussions before I examined their e-portfolio projects. This type of critical examination is something that I should always be aware of, but my surprise at Jessica and Dawn's performance on their e-portfolio projects may have been a direct result of deeply held assumptions about how they should have performed based on their outgoing demeanor and rhetorical adeptness in classroom conversations. Similarly, Edgar's reticence may have prompted me to misjudge him based on his face to face persona. This reflective practice as part of this study was a valuable learning experience for me.

Another area where this research has complicated my instruction is in assessing the e-portfolios. I actually feel less competent to assess student e-portfolios than I did going into this study. As a combination of deeply examining my own assessment style, assessing so many e-portfolios in so many ways, and attempting to define how e-portfolios should be assessed, I realize that I am a bit overwhelmed by the sheer amount of information that I have absorbed in this process. I find myself re-examining Alexander's (2005, 2007) ideas about valid assessment of digital projects for comfort, and attempting to put more assessment responsibility on students as well via peer review and conferences rather than graded assessment techniques. I may also explore other assessment techniques such as outside assessment and review of the students' e-portfolio efforts. This is most likely the area in which I will be working over the next few semesters.

Platform Independence

From this study, I began to think about something that is becoming increasingly important to me as more departments and units at the university develop e-portfolios. Something that surprised me as I studied various e-portfolio systems was how platform-dependent the e-portfolio technology seemed to be, yet how platform independent it had to become if an e-portfolio project was to be successful. Students wanted to concentrate on the technology to the exclusion of all else – it was consuming to them, easy to focus on, and concrete. All of the abstract problems of rhetoric and professionalization that the assignment was designed to focus on were easy to lose in the rush to learn a new technology, and it was difficult to get them to drag their attention away from developing the physical presence of their e-portfolio and back to the conceptual idea of developing the e-portfolio.

One thing that helped when I talked to later classes (I discovered this quite by accident) was making explicit through discussion this concept of platform independence. We discuss how the information contained in the e-portfolio should be able to be moved at a moment's notice from one server to another and from one development tool to the next. This important "knowledge management" discussion helps get the focus off the technology for the students and emphasizes the importance of focusing more on the theory rather than the technology.

In general, students did speak positively about the e-portfolio assignment; they commented that they saw the value in having an e-portfolio in their future professions, and that is valuable feedback to have as other departments move forward with e-portfolio development. It does seem that e-portfolios can provide a bridge assignment; a way to talk about important concepts in a way that is palatable to both students and instructors. I also like teaching this assignment, and I think that comes through to students as well. While I may not have achieved Sullivan and Porter's goals

of deepening my own practice, I did modify elements of mine in response to feedback, and discovered ways to incorporate my own reflections about this assignment with those of my students'. Most instructors know that they should teach assignments that they enjoy teaching, but this assignment has made me think of ways of incorporating what I enjoy about this particular assignment – working one-on-one with students to create a professional identity, helping them make real-world decisions, and helping them with the research process in a way that engages them.

Best Practices for E-Portfolio Development

As the University of Central Florida continues the discussion about whether to adopt a university-wide e-portfolio system, I would hope that this study adds a small caution, as well as a hopeful note to this conversation. A discussion of this sort must first start with scope, because even an exhaustive study, which this was not, could not claim to capture all of the issues inherent in a complex situation such as e-portfolios. Institution-specific, student-specific, and platform-specific limitations will always apply, and the discussion of all of the myriad ways to consider issues inherent in such a complex system is beyond the scope of a major work, let alone a research study such as this. However, certainly some recommendations for further research can be made based on some of the observations from both this study and from my own work with e-portfolios since I performed this research. Particularly at such a large institution such as the University of Central Florida, there are tremendous opportunities to explore both the potential and the pitfalls of e-portfolios and we should take advantage of this situation.

Since UCF's population is so large, we must be careful to proceed with caution and to design a system that is both sustainable and flexible enough to meet the changing needs of the student population and the technology. If there is one thing that this study has shown, it is that one technology cannot meet the needs of all students. Both students and faculty need different types of

e-portfolios for various purposes, there are different levels of technological and student engagement, and students differ widely in their technological and rhetorical ability and these factors will all affect how students use an e-portfolio system. Considering all of these factors we must take care to design a system that is flexible and scalable enough to adapt to rapidly changing technological and university climates. With such a large student population and spread over such a large distribution center, this will be no easy task. My recommendation is thus to seek out the simplest yet most flexible solution possible, and to continue to stress the importance of remaining "platform independent," where the development of the presentation aspect remains a seamless part of the process, and yet can be transferred to any medium best suited for the university's use at any given time without excessive development investment.

In addition, while designing this type of system, the university must be careful to follow best practices as designed by leading e-portfolio researchers such as Barrett, Yancy, Ittelson and Lorenzo, and Selfe and Hawisher, while still remaining sensitive to the needs and wants of the stakeholders involved. If students and faculty do not see the value added to an e-portfolio system, they will not adopt or use it. Continuing to allow all stakeholders, including students, faculty, and developers to participate in the development, adoption, and design of e-portfolio systems through focus groups and interviews, e-portfolio usability testing, and direct participation in the development of the system through pilot testing is one of the most important recommendations I can make to the success of any e-portfolio system.

Finally, my recommendation is for wide-scale participation in the e-portfolio community as a whole. Efforts such as the E-Portfolio Consortium, the white papers produced by Educause and Helen Barrett and other researchers working with e-portfolios and sustainability are a major resource we can tap into. We must not forget that e-portfolio can be defined according to many

parameters based on departmental needs, such as reflection, assessment, and presentation. Determining the best use for the technology and assessing the effectiveness of e-portfolios is a complex and difficult process that cannot occur over a short period of time. No matter whether an e-portfolio is latitudinal or longitudinal in design, that is, whether it collects a students' work over a course or a career, it succeeds on a longitudinal basis and must be assessed long-term. Only through large-scale research and assessment of an e-portfolio community and participation in a wider community can we determine the effectiveness of an e-portfolio project because of the complexity and diversity of the individual components involved. Such an undertaking is a major commitment by any university, particularly by such a large and diverse one. But I believe it can be a successful initiative that brings much benefit to the university, the individual students, and the participants, if not undertaken lightly.

APPENDIX A: IRB APPROVAL LETTER

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Notice of Expedited Initial Review and Approval

From : **UCF Institutional Review Board**
FWA00000351, Exp. 6/24/11, IRB00001138

To : **Jane Moody**

Date : **October 14, 2008**

IRB Number: **SBE-08-05832**

Study Title: **Researching Professional Online Identity**

Dear Researcher:

Your research protocol noted above was approved by **expedited** review by the UCF IRB Vice-chair on 10/14/2008. **The expiration date is 10/13/2009.** Your study was determined to be minimal risk for human subjects and expeditable per federal regulations, 45 CFR 46.110. The category for which this study qualifies as expeditable research is as follows:

6. Collection of data from voice, video, digital, or image recordings made for research purposes.

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

The IRB has approved a **consent procedure which requires participants to sign consent forms.** Use of the approved, stamped consent document(s) is required. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Subjects or their representatives must receive a copy of the consent form(s).

All data, which may include signed consent form documents, must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained on a password-protected computer if electronic information is used. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

To continue this research beyond the expiration date, a Continuing Review Form must be submitted 2 – 4 weeks prior to the expiration date. Advise the IRB if you receive a subpoena for the release of this information, or if a breach of confidentiality occurs. Also report any unanticipated problems or serious adverse events (within 5 working days). Do not make changes to the protocol methodology or consent form before obtaining IRB approval. Changes can be submitted for IRB review using the Addendum/Modification Request Form. An Addendum/Modification Request Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at http://iris.research.ucf.edu .

Failure to provide a continuing review report could lead to study suspension, a loss of funding and/or publication possibilities, or reporting of noncompliance to sponsors or funding agencies. The IRB maintains the authority under 45 CFR 46.110(e) to observe or have a third party observe the consent process and the research.

On behalf of Tracy Dietz, Ph.D., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 10/14/2008 12:59:14 PM EDT

Joanne Muratori

IRB Coordinator

APPENDIX B: STUDY CONSENT FORM

Informed Consent Form

We request your consent to participant in an educational research study.

PURPOSE of the STUDY: This project, a study of the use of E-portfolios in the course ENC 3241, Writing for the Technical Professional, is being conducted by Jane Moody, a Doctoral Candidate in the Text & Technology PhD program. The goal of the project is to understand how students use rhetoric and technology in the creation of e-portfolios, and how these e-portfolios influence their professional identity.

HOW YOU WERE SELECTED TO PARTICIPATE: You must be 18 year of age or older to participate. You were selected based on your answers to the Technology Survey that you took as part of the e-portfolio assignment. Brian Blackburne will perform the selection of interview participants and only he will have access to your identity and your interview information until after the end of the course and final grades have been assigned.

WHAT WE WILL ASK YOU TO DO: Participation in the study includes the following activities:

- Your survey response from the ENC 3241 course will be analyzed for technological characteristics. This will not affect your grade either in the course or on the e-portfolio project. Brian Blackburne will conduct the analysis and select students for participation in the interview process who have varying levels of technological expertise. I will not be aware of who is selected for the interview process until after final grades have been awarded.
- Your e-portfolio projects will be analyzed according to a rubric that looks for level of professional development and rhetorical purpose. This has nothing to do with your grade in either the course or on your e-portfolio project, and I will not perform this analysis until after final grades have been awarded.
- Your other online identities (myspace accounts, Facebook, other online personas) will be analyzed to identify issues with integrating your professional and private identities. This analysis will not take place until after final grades are awarded.
- You will be interviewed by Brian Blackburne outside of class time. He will ask you about your experiences creating identity online, using open-ended questions to encourage you to reflect on your experiences with public and private spaces. I will not know who has or has not been selected or interviewed, or have access to any of your interview responses until after the course ends and final grades are awarded. If you are chosen to participate in the interview, you will be contacted by Brian. After the interview is complete, you will receive a $20 gift certificate to Barnes & Noble.
- This interview will be audiotaped. If you do not wish to be taped, please inform Mr. Blackburn and we will honor your request.

RISKS OF PARTICIPATION: There are no anticipated risks associated with participation in this study. Your interview transcripts will be stored on a secure, password protected computer and only the researcher involved in the study will have access to the information.

BENEFITS OF PARTICIPATION: The benefits which may reasonably be expected to result from this study include detailed feedback about your own portfolio project beyond what is typically expected from classroom feedback. You will also gain a greater understanding of how technology and rhetoric influence the creation of professional projects, and exposure to a variety of technologies and methods for creating a professional impression. In addition, all interview participants will receive a $20 gift certificate to the UCF Bookstore.

CONFIDENTIALITY OF INFORMATION: I will use the information collected for research purposes only. I will protect the confidentiality of this information and will not disclose your identity or information that identifies you to anyone outside of the

research project, except as required by law. For the purposes of this study you will be assigned a pseudonym, and only Brian Blackburne and I will have access to information matching your interview with your pseudonym. All data will be kept confidential on a password protected computer with only myself having access to the data. The audio tapes will be kept in a locked cabinet with only myself and Mr. Blackburn having access. These tapes will be destroyed after three years. I will maintain your individual privacy in all published and written data resulting from the study. Your decision whether or not to participate in this study will not affect your student status at UCF or any grades or feedback within my course.

VOLUNTARINESS: Your participation in this study is completely voluntary. You may refuse to participate, or you may stop participating at any time and for any reason, without any penalty. You have the right to refuse to answer particular questions. We may also discontinue your participation or stop the study at any time if circumstances warrant.

WHOM TO CONTACT: If you have any questions about the study, please contact Jane Moody at jemoody@mail.ucf.edu or Brian Blackburne at blackburne@techwriter.net. The faculty supervisor for this research is Dr. David Wallace, Department of English (dwallace@mail.ucf.edu). You may also contact the UCF Institutional Review Board at irb@mail.ucf.edu or (407) 823-2901.

"Research at the University of Central Florida is conducted under the oversight of the UCF Institutional Review Board. Questions or concerns about research participants' rights may be directed to the IRB office, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246. The telephone number is 407-823-2901."

CONSENT TO PARTICIPATE: I have read this statement, and I understand what it says. I agree to participate in this study under the conditions outlines above. I also acknowledge that I have received a copy of this form.

I certify that I am 18 years or older as of 11/08/08: O Yes O No

I agree to allow myself to be audio taped: O Yes O No

Signature	Date

First Name (print clearly)	M.I.	Last Name

APPENDIX C: TECHNOLOGY SURVEY

Informed Consent

I certify that I am 18 years of age or older as of 11/08/08 Yes No

I consent to having this survey information used in the research study, " Researching Professional Online Identity."

Yes No

Background Questions

What age were you when you first used a computer? _____

Would you currently describe yourself as a working professional? Yes No

If yes, what type of work do you do? _____

If yes, how long have you been a working professional? _____

How did you learn to use the computer?

Self Parents Teacher Friends Other (Describe)

What motivated you to want to learn to use a computer? _____

Social Networking Questions

Do you have one of the following (select all that apply)?

Myspace Facebook Friendster Other (list)

If you use social networking sites such as myspace or Facebook, why do you do so? (choose all that apply)

To keep in touch with friends

To meet new people

To network for my career

Other

Do you have an identity on Second Life or another virtual social networking world?

Yes No

If yes, how long have you been using Second Life? _____

How many identities do you have? _____

Multimedia Questions

Have you ever looked at a video on Youtube or another video networking site?

Yes No

Have you ever uploaded a video to Youtube or another video networking site?

Yes No

Do you take digital photos?

Yes No

If so, where do you store them?

My computer

Photo Website such as Photobucket or Flickr

Do you share your photos with others?

Yes No

If so, how do you share them?

E-mail Photo Hosting site Slideshow Other _____

Do you have a blog?

Yes No

If so, when was the last time you updated it?

Less than a month ago

Six months ago to a month ago

More than six months ago

Technology Questions

Which of the following programs do you use or have you used in the past? (Check all that apply)

Wordprocessing such as Word, OpenOffice, or WordPerfect

Spreadsheet programs (such as Excel)

Digital image manipulation software such as Adobe Photoshop, Google Picasa, Apple Aperture, etc.

Presentation software such as Powerpoint, orAdobe Presenter

Multimedia software such as Camtasia, Flash, or iMovie

How comfortable are you manipulating images?

Very Not at all

1 2 3 4 5

How comfortable are you creating or working with movies or flash creations?

Very Not at all

1 2 3 4 5

Website Questions

Do you have a website?

Yes No

If yes, what did you use to build the site?

Dreamweaver or another authoring software

Notepad

Online Template

Where is your site hosted?

Free webspace

Private ISP

Other (describe)

How comfortable would you say you are creating and posting websites?

Very Not at all

1 2 3 4 5

Why do you have a website?

When was the last time you updated your site?

Less than a month ago

Six months ago to a month ago

More than six months ago

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